Control cabinets get 20% smaller

with Value Design components from Omron

Voshol Warmte-Elektrotechniek in the Netherlands is an electro-technical installation company that operates mainly in greenhouse horticulture. The company builds control cabinets that control heating, ventilation, (assimilation) lighting, and irrigation. Voshol has recently used the new, smaller relays from Omron's Value Design range for a number of projects, enabling the reduction in cabinet size by 20%. Voshol also used Omron's new engineering service for the project, which automatically identified all possible improvements in the Bill of Materials.

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Demand for smaller control cabinets

"An important development in panel construction for greenhouse horticulture is that our customers want increasingly smaller control cabinets," says Jan Bakker, eCAD designer and work planner at Voshol Warmte-Elektrotechniek. "This isn't part of the general trend in ICT and electrotechnology, the demand in the horticultural sector for smaller panels is much more intense, because smaller cabinets let more light into the greenhouse. Smaller control cabinets also improve the air circulation and climate control in greenhouses. Even a slight improvement has a positive effect on growth and therefore on revenue. For these reasons, with some crops, the control cabinets are placed under the cultivation tables and we have to supply equipment and cable ducts in white at the top of the greenhouse so that they can reflect more light."

Industrial relays for space economy

This demand for smaller panels is one of the reasons why Bakker likes working with Omron components. Bakker: "Omron's new Value Design products have a common compact design. The industrial relays in particular are very slim and all of the components are the same height, which allows us to save space and make the cabinets smaller. This might take a whole length off a cabinet, which saves you even more costs. They're all just small things, but together they make an attractive package."

Less heat and more workspace thanks to smaller components

Bakker points out that, in greenhouse horticulture, heat build-up in the panels is also an important point to consider: "Due to the high degree of humidity, fertilizers, and crop protection products, fans can't always be used to cool the cabinets. In control cabinets that are full of components, it's not possible to achieve good air

circulation, meaning too much heat is produced. We sometimes measure temperatures of 70°C or more, and you don't want that anywhere near shade cloths, which are extremely flammable. Fewer, but also smaller, energy-efficient components reduce heat build-up."

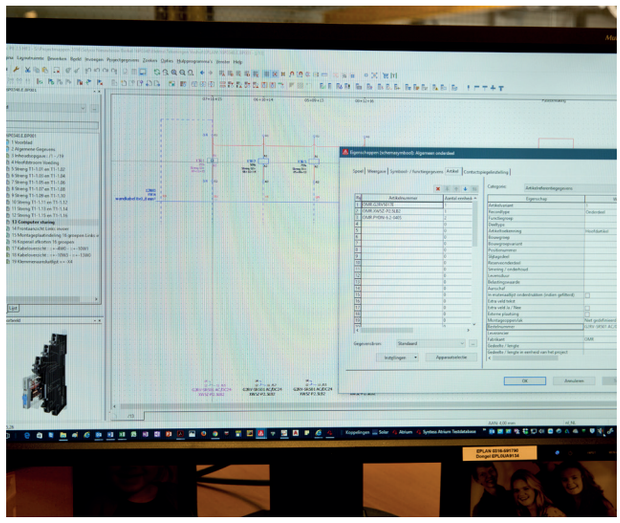
"Another advantage is that it makes maintenance and repairs easier," continues Bakker. "Older cabinets are generally quite full, so if the cabinets contain smaller components at the same height, then you have more room to work with. It also improves the heat dissipation of the cabinets. In addition, with smaller components, you can easily add a new group of components to an existing panel if required. Flexibility is extremely important in greenhouse horticulture, since horticulturists regularly change the layout of their greenhouses or they switch to another crop, which has completely different climate control and lighting requirements."

Quicker designs with quality parts data

As an eCAD designer, Bakker is able to download all of the parts data for Omron products directly from the Omron website or via the EPLAN Data Portal in EPLAN, which means he can work more quickly. "The quality of the parts data varies enormously between suppliers," says Bakker, "but it's clear that Omron dedicates a lot of time and attention to the data in order to make life as easy as possible for their customers. Since Omron components also come with UL and CSA certifications in addition to a CE certification, it's no problem for me to include them when designing control panels intended for the North American market."

Advantages of BOM based engineering service

In addition to the customization and expansion of their product portfolio, Omron has also developed a number of interesting services for panel builders under the name Panel-Pro, including an Bill Of Material (BOM) based engineering service. This allows panel builders to improve an existing BOM. With the help of a plug-in, they can use the service directly from the EPLAN environment. The result is a proposal for improvement including all of the data such as EPLAN parts data and datasheets, which are required to assess or implement the proposal. The proposal does not necessarily contain Omron only components. If products from other suppliers are a better option, then they'll remain in the custom design. Quotation requests and orders can be sent directly to the selected Panel-Pro partner within EPLAN. The partner will deliver the entire package of



Quicker designs with quality parts data

parts and components for the cabinets to the panel builder in one lot Just In Time (JIT), saving unnecessary stock.
Bakker is excited about the engineering service. He recently let Omron analyze the Bill of Materials for a project on distributor cabinets for assimilation lighting in a new greenhouse complex. Voshol was building control cabinets for the complex, each with the purpose of controlling a group of eight lamps of 1000 Watts. He did not incorporate all of the proposals due to the customer's specific requirements , but the relays, terminal blocks, and energy monitoring devices from the original specification were replaced by Omron components. The components were delivered by the Panel-Pro partner Solar. Since the cabinets were intended for the North American market, Omron and Solar also provided the necessary documentation on the UL and CSA certifications.

TCO saving of around 15%

Bakker estimates that the involvement of Omron and Solar in the project helped achieve a time and cost saving of about 15%. The saving is due, in part, to the use of new, smaller components that save space and therefore allow for smaller cabinets and less material. This makes it cheaper for the horticulturists and improves crop results. The support of Omron in the form of reliable parts data and plug-in for EPLAN makes it possible to further automate the design and ordering process, which cuts out a host of manual steps.

About Voshol Warmte Electrotechniek

Voshol Warmte-Elektrotechniek is engaged in consulting, design, and installation in commercial and residential construction. Voshol also builds around 200 control panels per year. An important market for Voshol is greenhouse horticulture, where the company is primarily focused on climate control. The firm has 35 permanent employees but also has a flexible self-employed team that can be contracted for installation and maintenance.