Success story

Industry: Packaging

PLC + HMI ALL IN ONE ™

> Bimetec selected the Unitronics Vision1210 not only because it met a wide set of requirements, but was also favorably priced

How can you improve the speed and efficiency of a can packaging line? Retrofit with all-in-one PLC + HMI controller.

Summary:

Bimetec specializes in offering control automation solutions to the agricultural and related industries. For one recent project, they retrofitted the can packaging lines at Bakker Brothers Seed, installing PLC control. Bimetec used a Unitronics Vision1210 and a 4.3-inch Samba for the project; these PLC were a great fit because of their easy-to-use, integrated color-touch HMIs, advanced communications and single-environment programming software.

PLC
+HMI
ALL IN ONE ™

INDUSTRY ▶ Packaging

Bimetec, a Dutch company, traditionally specialized in mechanization and control automation for the agricultural industry. Although they also offer machine renovations, repairs and maintenance, Bimetec focuses on new construction and innovation projects. Recently, Bimetec completely renovated two mechanical can-packaging machines at Bakker Brothers Seed. These canning lines consist of four activities: seed weighing, canning, check weighing, and labeling.

Two points on the line were specifically targeted for the renovation. First, Bimetec designed a new control cabinet for the check weighing station, where cans weight are verified before they are labeled. They installed a programmable logic controller (PLC) had to meet several requirements.

The control cabinet required a large touchscreen to enable the machine operator to easily and efficiently access the necessary menus and operations. For motion and frequency control, the PLC needed sufficient communication ports, including Ethernet, serial and CANbus. Furthermore, the PLC needed to be able to connect to both local and remote inputs and outputs. Secondly, Bimetec wanted to add a separate PLC to the labeling machine, so that it could be operated independently of the main system.

Influenced by prior experience Unitronics, Bimetec selected the Unitronics Vision1210 as the primary PLC. It not only met the requirements, but was also competitively priced. For the second, smaller PLC on the labeling machine, Bimetec choose a Unitronics SAMBA PLC with a 4.3-inch color-touch HMI panel. Both PLCs are programmed in one, single-environment software package, an important cost saving advantage.

The Vision1210 controls the canning line; cans are led to a filling unit through carousel platform with the weighing and filling station installed overhead. A buffer, mounted above the station, fills the can with seeds. In order to meet the high production speed, Bimetec installed two filling stations; while one unit is being filled, the second unit is brought to the correct weight. Each filling unit has a Unitronics load cell module and the measurements from those modules are connected directly to the load cell strain gauge converter on the controller; the high sample rate of this converter enables efficient filling. Once the weight is confimed, the cover is installed on the filled can before it moves to the labeling station.

The labeling station has a stand-alone PLC with touchscreen, the Unitronics SAMBA. Having a second touchscreen was a practical advantage, as the operator does not have to walk to the main panel every time they need to adjust a setting, saving time and effort. The label is attached and then the can's weight is checked again. If the weight is correct, then the can moves on to be packaged.

Bimetec designed the canning line so that it is possible to switch between the various types of seeds, can sizes, and types of label simply for increased flexibility. Using the touchscreen interface, the speeds of the conveyors and the filling weights can also be set. With the help of these improvements, the new canning line can now reach a speed of 750 cans per hour

UNITRONICS®
www.unitronics.com