

Author

Kirk Larson
is a regional
sales manager
at Turck USA
in Minneapolis



Webcode | **more11054e**



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35 Cases per Minute

New advancements in packaging system utilize Turck's product portfolio to achieve fast, reliable and customer-focused results

The California location of the packaging specialist Pro Pack Systems makes the company especially appealing for a multitude of local fruit and vegetable producers. The plants in these industries are often kept a cool 34 degrees F, because of the delicate nature of the products. Pro Pack has designed their equipment with IP67 rated products to provide reliable operation in these locations.

According to Paul Zurlinden with Pro Pack, "The products we use in our equipment must have good seals to resist harsh air quality due to the chemicals used for sanitation that can be found in a lot of our customer's sites." The company's insight into customer

needs results from 17 years in the business; seven of those dedicated to developing and manufacturing their own packaging machines.

Leap of technology and productivity

To meet customer requirements and industry demand, Pro Pack developed their latest packaging machine, the Pro Print/EBS-HS-2, that will print, erect and seal a corrugated shipping case. Where traditional case erector machines don't provide custom printing solutions at all, Pro Pack's machine can print on all four sides of a case, including bar codes and labels, prior to it being



Turck Profibus AIM stations are used for I/O acquisition and control



BL20 I/O systems installed within the subassembly give users control and diagnostics on the machine



A custom-built encoder with a d-sub connector was designed for Pro Pack's new machine

erected, providing a higher resolution image. Pro Pack realized that printing inside the machine also saves additional floor space required for traditional post-pack printing that may also include bump-turn methods and extra hardware cost.

A servo-driven case opening/squaring system delivers throughput of up to 35 cases per minute. Printed and erected cases are discharged either automatically or on demand with the case oriented vertically, not horizontally, to facilitate manual or automated packing. But what really makes this system unique is its ability to conduct all these steps with one machine, instead of requiring separate pieces of equipment on the packaging line.

The development of the Pro Print/EBS-HS-2 didn't happen overnight; instead it went through two major machine design stages and months of research, design and development. Advanced technology had to be implemented to turn the concept into reality. "In the past, the equipment was much less sophisticated.

Now it includes more technology for higher flexibility including a dynamic servo system and more I/O," says Zurlinden.

To achieve their production objectives, Pro Pack began using Turck proximity sensors, pressure sensors to detect air and vacuum, I/O stations and cables to connect the devices to the stations and the modules to the processor for its Pro Print/EBS-HS-2 machine three years ago. Turck's BL20 stations are also used in the control subassembly to retrieve and process I/O data. Likewise, Pro Pack utilizes Turck AIM (advanced I/O module) stations on the machine for I/O acquisition and control. Both of these systems are available in network protocols most often required by Pro Pack customers – DeviceNet and Profibus – so that the machines can be designed to suit the manufacturing environment in which they'll function. "The fact that Turck offers many products with many different network protocols makes it easy for us to use them on our equipment," adds Zurlinden.

Reduced assembly and startup time

Pro Pack produces approximately 20 pieces of equipment each year, each with subassemblies on the machines to give users control and diagnostics at the point where it's needed most. According to Zurlinden, a real advantage of integrating these stations on the machines is the reduction at in-house assembly and startup time at the customer site. "Networking our I/O reduces our assembly time with minimal conductor terminations," says Zurlinden. "We also provide service and start up support to help our customers with installation, along with training employees about how to operate and troubleshoot our machines. A networked system offers fewer wires and simpler troubleshooting."

With the exception of the BL20 system, most Turck products that are used in the Pro Pack equipment are IP67 rated, further ensuring the machine's reliability in the field. Confirms Zurlinden, "I can't say that we've ever had problems with a Turck product. The reliability is outstanding. We also receive excellent service and support from the company. It's nice to be able to go back to the same supplier and not have to shop around."

Thanks to Turck's flexibility in manufacturing, Pro Pack was also able to have custom needs met. Turck was able to provide the company with an encoder with a custom cable connection for its Pro Print/EBS-HS-2 machine. A hollow-shaft encoder with a d-sub style connection was required for the integrated printing system within the machine, and Turck was able to respond to the request easily with minimal up-charge or lead time. ■



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**Paul Zurlinden,
Pro Pack Systems**

Quick read

Pro Pack Systems, Inc. in Salinas, California, designs and builds custom case erectors and packers for manufacturers across many sectors. Their latest packaging machine, the Pro Print/EBS-HS-2, includes a lot of technology to turn their concept of a flexible packaging and printing solution into reality. To ensure safe operation in harsh environments, the Pro Pack engineers trust in Turck IP67 rated proximity sensors, pressure sensors, I/O stations and cables, as well as BL20 I/O stations.