

Retrofitting Labelers for RFID

Panther has developed an RFID reader and antenna system that bolts on to an existing Panther label printer-applicator, enabling its customers to save money.

By Jonathan Collins

June 30, 2004—Automated labeling equipment specialist Panther Industries has developed technology to RFID-enable its new and existing machines for printing and applying labels. According to the company, its offering differs from rival RFID label printer-applicator systems because Panther has developed a way to locate the RFID antenna into a printer-applicator's existing printer engine (the assembly within a printer-applicator that does the actual printing), enabling its customers to retrofit their labeling systems to support RFID.

“We don't believe that customers will want to throw out good printer engines just to upgrade their print-and-apply systems to RFID. Printer engine manufacturers have no interest in providing retrofits for RFID. We needed a retrofit kit for our Panther 2000 installed base, and rather than wait for printer engine manufacturers, we developed our own,” says James W. Thompson, engineering manager at Panther Industries, which is based in Littleton, Colo.

Panther counts a number of Wal-Mart top 100 suppliers such as Colgate-Palmolive, Proctor & Gamble and Timex among its customer base. By January 2005, those existing customers are due to start applying RFID labels to cases and pallets they ship to Wal-Mart's three north Texas distribution centers. According to Panther, its RFID Kit will offer those customers and others a less expensive way of upgrading their production lines to support RFID-labeled shipments.

“Existing printer engines are worth around \$5,000, and replacements, when they come, could be between \$8,000 and \$9,000,” says Thompson. By comparison, Panther says, its bolt-on option is available now at a cost of \$5,495.

Panther's bolt-on RFID system comprises two RFID antennas wired to an ALR 9700 series RFID reader from Alien Technology. Designed and manufactured by Panther, the first antenna is installed in a label printer's thermal printer engine, and it encodes the RFID tag embedded in a smart label. According to the company, the antenna can be installed in printer engines from key printer engine manufacturers such as Sato, Datamax and Zebra. The only additional requirement is that the customers' production software can communicate with the Alien RFID reader or with Panther's own software. Customers have the option of using Panther's supplied software or developing code to communicate directly with the Alien reader.

The new antenna measures 4 inches by 1 ¼ inches and has an intentionally short read range of around half an inch so that reads can be restricted to a single label at a time. By restricting that read range, Panther says the RFID reader can write to 4-by-4-inch and 4-by-6-inch labels. The company says it is working on ways to enable the reader to write to labels less than a 4 inches wide. (Currently, when trying to identify and write to smaller label, the labels may be so close together that the reader may be writing to more than one label at a time.)

A second antenna, made by Alien Technology, is mounted on the end user's conveyor system and is used to verify the label is working properly. The Panther 2000 system can handle label roll sizes up to 14 inches in diameter and, has can write, print and apply labels at rate of between 30 to 60 products per minute.

Panther says it will travel to the end user's site to install the RFID system. The process would probably take 2 to 3 hours to install the antenna and up to 8 hours, depending upon the system, to upgrade software.

The current bolt-on system supports EPCglobal Class 1, but the company says its system will be upgradeable to the planned EPCglobal Gen 2 standard. The upgrade will be carried out by a software upgrade to the RFID reader via the PC to which the reader. Panther says it would not charge for such an upgrade.

All Panther 2000 printer-applicators can be upgraded using the bolt-on RFID Kit or can be purchased with the RFID system already installed. Excluding the RFID system, Panther 2000 range of label printer-applicators, which cost from \$12,000 to \$16,000 each.

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