

Textbook Applications, Innovative Solutions

## AUTOMATED LASER MARKING FOR FARM PRODUCE TRACEABILITY



### Wishnatzki Farms Plant City, FL

**It's 7 o'clock...**do you know where your produce came from? If you have fruits or vegetables from Wishnatzki farms, you not only know where it came from, but also what field it came from, what day and time it was picked, and who picked it! Wishnatzki Farms has taken the Produce Traceability Initiative to heart. The Produce Traceability Initiative, or PTI, is an effort to increase value throughout the produce harvest chain by encouraging accountability. Some ambitious companies, including Wishnatzki Farms, are even using it for customer feedback purposes, constantly improving their techniques and procedures.

So what does a SmartMotor have to do with produce traceability? The answer is FireTag.



**FireTag** was developed by VirtualOne, a software subsidiary of Wishnatzki Farms. The FireTag machine provides case level traceability for produce that doesn't come in individual plastic containers, like bell peppers or cucumbers. The machine features a camera guided laser system

mounted on a 3-axis table that burns PTI compliant marks onto cases of produce. Each axis moving the camera-guided laser is controlled by a drive enabled NEMA 34 frame SmartMotor, with one SmartMotor working as the master controlling the other two through CAN.



**As the SmartMotor** servos move the camera and laser at a constant speed along stacked columns of produce cases, the camera reads a barcode tag that denotes pallet configuration, and a PC downloads the predetermined marking pattern to the SmartMotor. What if a pallet is only partially full? At each distance between cases where the barcode *should* be, the SmartMotor triggers the camera to check the area to be laser inscribed. If the camera doesn't detect a case, the SmartMotor stops the laser from marking in situations of a partially filled pallet or a "five down" stacked pallet (three cases facing outward on one side and only two facing out on the adjacent side). With these variables accounted for, the pallets can be loaded in any orientation onto FireTag's intake rollers with no problems.

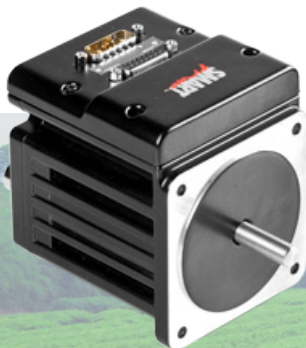
**"FireTag** is completely modular," said Bob Pitzer, of 4FX Design, who designed the machine. **"We used the SmartMotor because we needed to save space and wanted a less complicated system. We didn't have**

**room for a huge cabinet of controls, we're aiming for portability."**

**The** FireTag system is not only portable and automated, it's efficient. With easy-to-load intake and outtake rollers, an automated turntable to mark all 4 sides of a stacked pallet, and an automated laser marking system guided by the compact SmartMotors, the whole system takes up about 6 pallets worth of factory floor space and brings marking time to under **1 second per case**. That's a significant improvement compared to the current sticker label process which creates paper waste, bottlenecks in the receiving process, and human error. As Wishnatzki Farms grows and processes more packages every year, marking time per box becomes crucial.



**"We** didn't try any other servo motor because we needed 100% reliability. The SmartMotors haven't failed yet and we don't expect them to. FireTag isn't designed just for the clean room environment but for the farm factory floor, so durability and reliability were key in our decisions" said Rob Ogilbee, CFO of VirtualOne.



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