

Wood's@Work®

TB Wood's WFC^{HT} AC Inverters Help Cut Down Drive Time into Tampa

S-trAC EST Soft Start
Eliminating the Jerks in a Conveyor Line

S-Series Microdrives
Big News in Little Packages



Powering Your Success

TB Wood's



Wood's@Work®



Harold "Took" Coder
Vice President Sales

Selling Total Solutions

TB Wood's held its National Sales Conference in November, and we kicked off our theme for 2004, "Selling Total Solutions." Within our product group, we feel TB Wood's offers the best value-added sales propositions in our industry. Let me name a few areas where we excel:

- TB Wood's can provide the best solution for all belted drive types: V-belt, synchronous or motion control drives.
- We are the best in the business at making big wheels: stock or made-to-order.
- We can provide the best solution for all types of couplings: jaw, elastomeric, disc or gear. In addition, our Sure-Flex elastomeric coupling has the best brand recognition in our industry.
- In the PT (power transmission) market, Wood's has AC inverter solutions ranging from a low cost shaft turner to a Vector drive. Our inverters have set the standard for enclosed drives, beginning with our NEMA 4 design in the 1990s and continuing with our superior NSF-rated drive.
- With the addition of gearmotors to our product line, TB Wood's can combine these outstanding products to create a total system solution.

Please call your local TB Wood's Field Sales Engineer or our application engineers to help design your PT solutions.

Took Coder

Merchandise rolls through warehouse on Wood's conveyor application

A major retail giant has approximately 12 miles of conveyors running through its Kansas City, MO distribution center. Every inch of the line is vital to keep merchandise flowing to thousands of catalog customers each day. But there are five areas along the line where control and smooth operation are especially crucial. TB Wood's and Kaman Industrial Technologies recently helped this customer improve the efficiency of the key handling and shipping operations in those key areas.

"Previously, the customer used clutches to start and stop the conveyor so that individual pieces of merchandise could be scanned, routed, or otherwise individually processed," says Mark Synder, Kaman Industrial Technologies' Sales Representative. "The problem was, the clutch mechanism made the line jerk as it stopped and restarted. Since the conveyor had to start and stop up to ten times a minute for different functions, the merchandise was getting tipped over

and moved out of its zone on the belt. That caused product jams, confusion and extra labor, and could lead to expensive shipping and handling errors."

"We recommended replacing the clutch systems with TB Wood's X2C drives," says Harold Green, TB Wood's Field Service Engineer. "By using the drives to softly start and stop each special conveyor operation, we kept the merchandise in order and in the correct zone, and we reduced wear-and-tear on the line components. By using the accelerating and decelerating ramp in the drives, the jerks were eliminated and the drives have enough torque to adjust to move heavy items, such as large TVs, or lighter items, such as lines of apparel!"

The customer has reported that the new solution reduced downtime, made the process more dependable and reduced the headaches caused by the old system. Two applications are up and running and the remaining three will soon be installed.



E-trAC® X2C AC Inverter

With the X2C AC Inverters, TB Wood's has combined the small size of the XFC Series micro inverters with the high performance of the WFCHT Series AC Inverters. X2C Series inverters are available in Chassis and NEMA 1 industrial enclosures, with up to 1 HP at 115 Vac, 1/2 to 20 HP at 200/230 Vac and 1 to 20 HP at 380/460 Vac. Each model delivers accurate, reliable motor control with advanced features, including over 54 control parameters, enhanced motor protection, dynamic braking, high carrier frequencies up to 16 kHz and smooth torque control down to 3 Hz.

Power Tools

Adding to your sales momentum



At TB Wood's, we're doing our part to educate your customers about our well-engineered products, worldwide reputation and well-respected brand. Our 2004 advertising schedule is designed to support your own advertising efforts in both the electrical and mechanical markets. Throughout the next year, we'll be advertising the TB Wood's brand and family of products in a targeted group of electrical and mechanical engineering trade publications. To help customers find you, each ad will contain our Web site address. On our site, prospects can locate the TB Wood's distributor closest to them. Look for our ads in these top tier industry publications: *New Equipment Digest*, *Machine Design*, *IEN* and *Food Processing*.

Give us your story to include in the NEW *Wood's@Work* application story database and we'll send you a TB Wood's golf shirt.

If we use the story in the quarterly issue of *Wood's@Work* we'll send you a TB Wood's jacket.

Distributors are quickly learning that *Wood's@Work* is a valuable storehouse of application information and knowledge. We're constantly adding to our collection of TB Wood's success stories — let us know if you have one to share! We'll list it on our searchable Web database, and consider it for publication in our quarterly *Wood's@Work* magazine.

If your story is accepted and posted to the Web site, you will receive a TB Wood's golf shirt. If your story is published in our quarterly magazine, you will receive a TB Wood's jacket.



POWER SOLUTIONS



Tripp Caines

Major sales spark award

With the help of the TB Wood's team, Tripp Caines and PEC landed a big sale from the Dupont's fiber plant in Waynesboro, VA. Team selling a design package that included 544 AC drives, mounted in 32 drive cabinets helped land Tripp the Electronic Charge Award in 2003 for his outstanding sales of electronic products. The updated Spinning Machine System and the Continuous Polymerization Upgrade improved the plant's product production by 15%.

Tripp began as a Field Sales Engineer for Wood's in 1998 and recently was promoted to Regional Drives Manager for the Southeast Region. He calls on clients in a diverse cross-section of industries including HVAC, food and beverage production, woodworking, and steel. Tripp's clients also include the pulp and paper, aggregate, and coal mining, and textile and fiber industries. His background in systems automation and integration and electrical contracting allows him to problem-solve and design efficient systems across industries.

Tripp says there are two keys to his sales success. First, "treat customers like you'd want to be treated. Respond to their needs quickly, offer them a fair price, be knowledgeable about your products, and conduct yourself with integrity that's above the norm," he states.

And, Tripp says, the support and backing of a customer-focused company is essential. "I get tremendous support from the TB Wood's team," he says. "From the engineers, to the guys in the plant, to top management, everyone wants to help the customer. They do what it takes — from giving me flexibility to negotiate a deal, to meeting tight delivery deadlines."

"TB Wood's may be a big company," he says, "but it has heart. They listen to their employees and customers. That's what makes them a cut above the rest."

Good News

Our drives give contractor lots of pull

Guy Dickes, president of the Constellation Group of Baltimore, MD, used two TB Woods 15-HP WFC^{HT} Sensorless Vector AC Inverters to creatively solve a road-building dilemma in Tampa, Florida.

The growing city is building an elevated commuter roadway in the median of a busy highway. Since the existing roads could not be closed during construction, cranes had no room to swing sections of roadway into place.

Working with PCL Civil Constructors, Dickes developed a chain drive control system that drags 80-ton sections of pre-formed concrete 160 feet along yellow steel girders and into place. The control system Dickes designed allows an operator to precisely maneuver the segments until they're flush with each other.

Dickes chose TB Wood' inverters because they provide high torque at low speeds.

"The contractor's supplier wanted me to look at other drives for this job because they were cheaper," says Dickes. "I did, because it was the client's money I was spending, but the other drives couldn't deliver. The Wood's inverter gives me 150 percent torque at 2 Hz. That's what you need to get an 80-ton piece of concrete to move into place."

This innovative road-building process has been so successful that the set up and machinery have been duplicated, and a second crew has been put to work.



The TB Wood's WFC^{HT} Inverters control the motors that power the chain drives inside the yellow girders. It takes about three days to build a 160-foot span of roadway between two highway piers.



The black WFC inverters are mounted on the wall near the control panel. The inverters' high torque feature allows an operator to move the segment at 15 feet per minute or to creep it into place 3/8 of an inch at a time.



For each section of highway, 16 pre-cast concrete sections must be individually lifted onto this girder system and moved into place along the rails.



Hydraulic jacks, mounted on the drive chains, carry each concrete section along the girders that span the highway piers.

A construction crane lifts each slab onto the yellow bracket that sits atop a highway pier. The slab's "wings" are balanced on jacks that run on the chains in the girders.



Much of the work is done at night when the traffic around the site is lighter. At publication time, nearly a mile of roadway had been built.



When all 16 sections have been maneuvered into place, cables are run through pre-formed holes in the 10-foot high concrete base of each section (see picture above). When the cable is pulled tight, the sections snugly fit together to form a smooth, wide new road.



Although the project design may resemble a giant erector set, the king-size, rugged components make it obvious this isn't child's play.

TECH Corner



Use the WF2 as a system building-block

By Tim Park

Most TB Wood's customers buy a motor control for a single purpose with single point, manual control in mind, however, here are many more intricate applications out there. We should be aware of those options and have some knowledge of how the many hardware and software features offered in today's motor controls can be our friend.

In many industries, blending and mixing of multiple components is required to make the final product. The secret to meeting established quality standards is often in keeping the process controlled and repeatable. With today's motor controllers, such as the E-trAC® WF2 Sensorless Vector Drive, it is certainly easy to set the speed of a process with relatively high precision. But, if there are multiple drives involved in a process, the consistent quality of the finished product may depend on how accurately the operator sets each potentiometer. To help control the biggest variables in the process — human accuracy and human error — consider using the programmable WF2 to coordinate all the steps in the process.

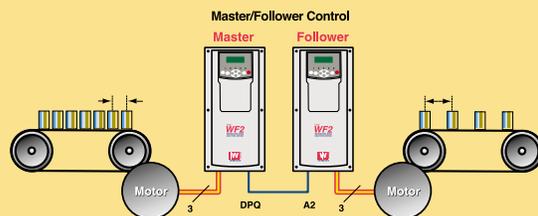
Every E-trAC WF2 offers a range of features that, when combined with a little ingenuity, add up to a high quality solution. The WF2 has:

- A pulse-train output that varies in proportion to the controller's output frequency.
- An analog input that can double as a pulse-train input for a frequency reference.



- Multiple range settings for pulse-train inputs.
- The ability to set an offset and span (sometimes termed a bias and gain) for each reference input.

To illustrate, let's call the first drive in the process the master. If we use the pulse-train output of the master as a speed reference for all the other drives in the system, we can tweak each of the followers to a distinct ratio of the master. The adjustment can range from 0-200%. That means that we could easily have a follower drive operating up to two times the speed of the master! With the process tied together proportionately, the processing speed can be set automatically by a remote controller or manually by the operator with assurance the follower will constantly track at the correct ratio.



What are some of applications that might take advantage of this master-follower scenario?

Two big industries come to mind right away: food processing and aggregate processing. We can't bake bread without mixing various components together in exact proportion. And we can't make even less edible things, like concrete or asphalt, without the same precision.

So broaden your thinking a bit...everyone can do the easy applications. With the standard E-trAC® WF2, you have the tools to go farther, to provide more value, and deliver the Lowest Cost, Total Solution.

Calendar of Events



Atlanta will again host approximately 19,000 attendees at the International Poultry Exposition in January.

January 28 - 29

International Poultry Exposition

Atlanta, GA

The International Poultry Exposition is that industry's largest U.S. show. Every segment of the poultry and egg industry is represented: feed milling, live production, hatchery, processing, further processing, packaging, commercial egg, marketing, and all support activities.

At the last exposition, 880 exhibitors filled more than 16 acres of display area in the Georgia World Congress Center with every conceivable product and service used by these industry groups. Approximately 19,000 decision-makers from around the world attended the show.

January 26 -28

AHR Expo

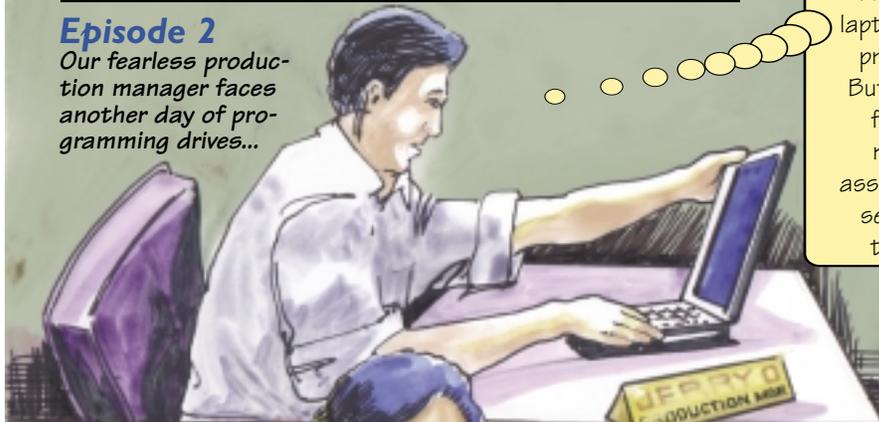
Anaheim Convention Center, Anaheim, CA

Since 1930, the International Air-Conditioning, Heating, Refrigerating Exposition has been the leading source for new HVAC&R equipment, products, components, systems and services. Last year's show broke all attendance records, proving this expo is a wonderful place to survey the industry and find answers. **Visit the TB Wood's booth, Number 2938, to see our innovative HVAC solutions.**

AC Drive TALES

Episode 2

Our fearless production manager faces another day of programming drives...



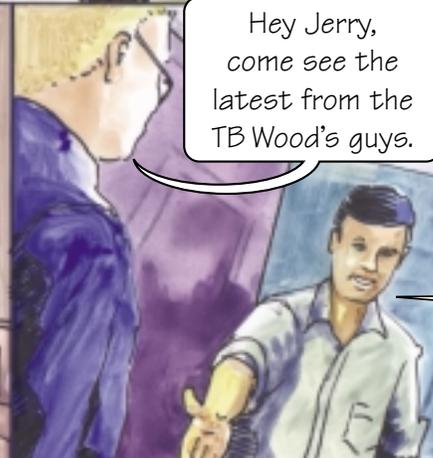
I wish there was a simpler and faster way of programming those AC DRIVES! I hate taking my laptop out onto the production floor. But I need to keep files for these machines and assure each drive is set up correctly the first time.



Oh, I almost forgot! I need to find my programming cable and RS232 converter to program those drives. I wonder where I put them?



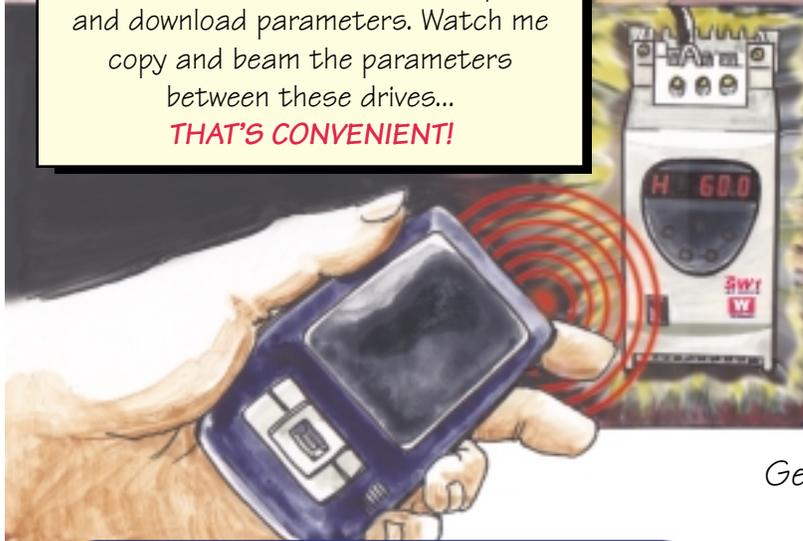
Look at all those machines! This is going to take some time to set up the drives on every machine.



Hey Jerry, come see the latest from the TB Wood's guys.

Wow! No PC or cables, and it's easy to use! I can edit and save parameter setups on my PDA. This will save us time and money, *plus* make our job easier!

TB Wood's has this new SW1 AC Drive, that uses a Pocket PC PDA to upload and download parameters. Watch me copy and beam the parameters between these drives... **THAT'S CONVENIENT!**



And to top it off... We can view parameters in 4 different languages!

Now that's the **Lowest Cost TOTAL Solution.**

Get the complete story on our S-Series Drives... Contact your local distributor today!

PDA-trAC® configuration software and the Wireless Data Transfer of the SW1 AC Drive save time, reduce stress, and provide peace of mind.



FEATURING... **PDA-TRAC®**

Lowest Cost **TOTAL** Solution!



Powering Your Success

TB Wood's

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Marketing Communications at:

TB Wood's Incorporated
Chambersburg, PA 17201
Call: 888-TBWOODS
Fax: 717-264-6420
www.tbwoods.com