



4B Components Ltd.  
729 Sabrina Drive  
East Peoria, IL 61611  
USA

A Worldwide Manufacturer of:  
High Quality, Technologically Advanced  
Material Handling & Electronic Components

For Sales or 24 Hour Technical Support: 309-698-5611

Copyright 2010 © 4B Components Ltd. All rights reserved.

TECHNOLOGY · INNOVATION · QUALITY · VALUE

## 2010 Trade Shows

4B will be attending following shows:

- **GEAPS Exchange**  
- February 21 - 23, Wichita, KS
- **IEEE-IAS/PCA Cement Conference**  
- March 28 - 30, Colorado Springs, CO
- **International Powder & Bulk Solids**  
- May 4 - 6, Rosemount, IL

Stop by and see all of our new products,  
and talk with one of our representatives.



**Need a 4B Product Catalog?**

Give us a call (309-698-5611) or send an email  
(4b-usa@go4b.com) to request your copy.



4B Components, Limited - East Peoria, IL 309-698-5611

Volume 10 • Issue 20

## NEW PRODUCT - M800 ELITE SPEEDSWITCH

The M800 Speedswitch, the most popular underspeed sensor in the industry, has been dramatically improved with the introduction of the "New" M800 Elite which now incorporates a universal voltage supply. The microprocessor controlled sensor works just like before, as a standalone monitor with no additional control units required but now with its universal 24-240 VAC/DC power supply, the M800 elite is even more flexible than its predecessor! It is totally sealed and completely submersible with no potentiometers or knobs for underspeed adjustment. The included dual purpose calibration magnet will both self-calibrate the exact underspeed rates and set the startup delay of the sensor (0 to 15 seconds).



**M800 Elite Speedswitch  
With "NEW" Universal  
Voltage Supply**

There is a 10% underspeed alarm relay and 20% underspeed stop relay contained within the M800 elite. With easy to identify wire colors, the 10% relay can activate a horn or flashing light and the 20% relay disconnects power to the machine. With our Whirligig and Mag-Con, the M800 elite provides a complete self contained underspeed assembly. If you require an rpm display, the M800 Elite includes a pulsed output that can be wired to a tachometer or PLC input.

### NEW SERVICE

### Installation / Commissioning / Maintenance



The formation of the new 4B Tech Team in January 2010 will allow 4B to expand on its already highly valued customer service. With new employees and additional resources 4B increases its capabilities for new product installation, on site commissioning and training, and periodic product testing and maintenance. If you are interested in any of these services please do not hesitate to contact 4B to discuss your requirements.

See some of our other new product introductions for 2010 inside this issue:



- RLI Shaker
- Stainless Steel Rotech
- ADB Bearing Sensor
- Bolt 'N' Go Flights

www.go4b.com





**Roger Bruère  
Technical Sales Engineer**

Steel Web elevator belts are mainly used in very tall grain elevators and industrial cement elevators. These industries have experienced for many years the recurrent need to re-splice overly stretched textile belts and to address belt tracking issues.

The need for a belt with low-stretch and straight-running characteristics was clear. The result: 4B's Polysur Ferro Steel Web Belt.

4B Polysur's innovative steel web carcass construction yields a maximum permanent belt elongation of 0.35%, in other words, a belt that virtually does not stretch. In addition, its advanced cross-rigid steel cords display an elastic elongation of 0.15% which allows the belt to run over crowned pulleys, forcing positive tracking.

Also, Polysur Steel Web Elevator Belts are designed specifically for use in bucket elevators and offer many improvements and advantages over using traditional steel cable belt which was not originally designed for use in bucket elevators, only conveyors. The charts below show the main differences and their implications.

TRADITIONAL STEEL CABLE BELT			
<b>Design Characteristic</b>	Longitudinal (warp) cables only	Rubber covers	Bolt holding ability
<b>Limitation/ Advantage</b>	Must operate over flat-faced pulleys	Poor rubber to steel adhesion	Must drill bolt holes in cable free zones
<b>Results</b>	Belt tracking problems	Rubber cover delamination results in cable exposure, increasing risk of cable corrosion, and premature wear	Poor bolt holding ability increases risk of bucket bolts slitting the belt



Traditional Belt - Cable Free Zones



Traditional Belt - Cables Exposed

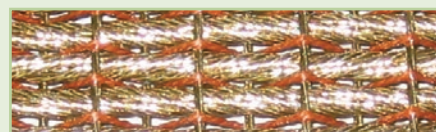


Traditional Belt - Delaminated Covers (Front & Back)

4B POLYSUR STEEL WEB BELT			
<b>Design Characteristic</b>	Longitudinal (warp) and Transversal (weft) cables	Rubber covers	Bolt holding ability
<b>Limitation/ Advantage</b>	Can operate over crowned pulleys	Rubber covers are embedded with the steel cable construction	Bolt holes are drilled through the steel web
<b>Results</b>	<ul style="list-style-type: none"> <li>Positive belt tracking</li> <li>0.35% maximum permanent elongation</li> <li>Highly flexible</li> <li>High shock resistance</li> <li>Higher durability</li> </ul>	<ul style="list-style-type: none"> <li>No rubber cover delamination</li> <li>Maximum rubber to steel adhesion</li> <li>Minimal corrosion risk in case of belt damage</li> </ul>	<ul style="list-style-type: none"> <li>Increased bolt holding ability</li> <li>Minimizes risk of bucket bolts slitting the belt</li> </ul>



For pricing, more technical information or a user reference list, please contact me at [rbruere@go4b.com](mailto:rbruere@go4b.com) or call 309-698-5611.



Polysur Steel Web Inner Carcass



Polysur Belt in Cement Application

# WHAT'S NEW FOR 2010



**RLI "SHAKER" -  
Level Indicator**

- Shaking Action Sheds Material Build Up
- Adjustable Torque Control
- Indestructible Direct Stepper Motor Drive
- No Clutch and No Gearbox
- Failsafe Rotation Detection



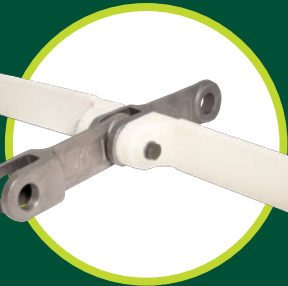
**Rotech -  
Stainless Steel Heavy Duty Encoder**

- 304/316 Stainless Steel Construction
- Totally Self Contained
- Ultra Heavy Duty Design
- 1 to 1000 Pulses Per Revolution
- Multiple Outputs AC/DC
- Class II Div 1 Approved



**ADB -  
Bearing Temperature Sensor**

- Adjustable Depth Sensor
- Grease Zerk for Bearing Lubrication
- Continuous Temperature Monitoring
- Class II Div 1 Approved



**Bolt 'N' Go™ -  
Drop Forged Chain**

- Bolt on Flights, No Welding Required
- Quick and Simple Flight Replacement
- New Plastic Flight Options
- Bolt on Steel Flights Available



**David Byard - Technical Sales**

The M800 is the industry standard when it comes to monitoring shaft underspeed. The M800 helps protect conveyors and bucket elevators from dangerous slip conditions preventing loss of productivity and equipment.



M800 Speedswitch

Although most electricians do an excellent job at installing the M800, we have become aware that some have not performed the most critical step, calibration and testing. The M800 is factory calibrated at 10 pulses per minute, which allows the machine to be run for commissioning, but the M800 needs to be reprogrammed (calibrated) to the normal running speed of your conveyor or bucket elevator so that it can calculate the correct 10% and 20% underspeed outputs.

To do this we need to have the M800 properly installed, the bucket elevator or conveyor to be completely emptied of any product, and the belt to be tight. Start the conveyor or bucket elevator without introducing any material. You will notice that immediately after the M800 is powered up the green light will flash 5 times and then become solid. This indicates that the M800 is factory set to a 5 second start up delay. Now that the machine startup is complete and the equipment is running at normal speed, the green light on the M800 should be solid and the red light should flash every time the target passes in front of its field of view.

At this time we take the cylindrical magnet that is provided with the M800 and place it on the cross hairs to the left of **CALIBRATE** on the top of the sensor (Fig. A). As soon as the magnet is placed on this point you will notice the green light on the M800 will start to flash. Each Flash represents

1 second of your programmable start up delay. Once you have the delay that you want, remove the magnet. The M800 at this time will calculate the 10% and 20% under speeds and the green light will flash back the delay that you have just programmed in to it.



Fig. A  
Top of Sensor



M800 Shown on 4B's Whirligig™ Target Bracket & Guard for Easy Sensor Installation

When calibration is complete, you MUST then test that the wiring for shutdown is correct. To do this place a putty knife or some aluminum foil between the nose of the M800 and the target. If the equipment shuts down immediately then that's it! You have successfully installed and calibrated your M800 Speedswitch. We recommend testing the correct shutdown of the equipment on a regular basis. Visit the *Technical Support* area of our website at [www.go4b.com/usa/](http://www.go4b.com/usa/) for complete product installation instructions.



**Field Tech Leader**

I joined 4B in August of 2009, and I am very proud to be the new Field Tech Leader. The position brings with it, a lot of responsibility and hard work but I am definitely up for the challenge. I worked for an electrical company prior to coming to 4B.

I have also done various jobs throughout my life in the construction, maintenance and electrical fields. I live and reside in Columbus Indiana with my wife and our kids, in our spare time we like to bass fish and bowl.

I look forward to helping 4B continue to provide industry leading service and offering new services and products to our customers.