

CPI®

Control Products, Inc.

SENSABILITY

PRECISION • EFFICIENCY • RELIABILITY • SAFETY

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IN THIS ISSUE

[Fire Up the barbie...](#)

[Good Programs, Great Channel: Our Visit with Genelco](#)

[Trade Show Report](#)

[Production Report: SL Sensors](#)

[Rugged New Military Vehicles](#)

[Aerospace Report](#)

[Product Feature: Meeting Diesel Challenges](#)

[Seven Decades Experience](#)

A Note From CPI



Fire up the barbie. It's Grillin' Time!

Happy spring (and almost summer) to you all. I hope this issue of **SensAbility** finds you well and looking forward to taking some time off for a few barbecues and a healthy dose of quality time with family and friends.

We're ready for some R&R ourselves, having just come off a very busy [trade show season](#). In fact, that period of time seems to have coincided with an acceleration of new projects at CPI. So we're actually sharing visions of grilling time with visions of busy production lines.

For instance, we are now looking at completely new applications, such as thermal switches on power generating windmills (a CPI first), and renewed interest in position sensing to increase efficiency on a wide variety of mining and construction equipment.

This acceleration is, of course, a bit ironic, for the economic news

[UmptySquatch Update](#)

[Visit the SensAbility Archives](#)

[CPI Spotlight - Dev Lamba](#)

[Closing Thoughts](#)

these days is somewhat bleak, to say the least. Slower growth and higher unemployment lead the forecasts from the Fed, double digit output reductions are planned by the major automakers, the tail spinning of home prices is a reality, living costs continue to increase, the stock market remains jittery, the recovery periods are expected to be longer, and people from all corners of business and industry are understandably a little nervous about what's going on out there.

My perspective is this: with each element contributing to a 'falling sky' scenario, there is a corresponding opportunity for industry. With oil at almost \$150 a barrel, there are new green industries popping up which will be followed by the development of more efficient and intelligent machinery. Higher food prices will drive investments and innovation in automated farming and food processing. In short, challenges can lead to new opportunities at the end of all those proverbial tunnels.

In this issue of **SensAbility** we will talk about some of those new opportunities, as well as recap some of the trade shows I mentioned above. We'll also share with you some of the newer applications of our products, and introduce you to a couple of important people both inside and outside the company.

In closing, I must mention that it isn't only economic news that has been dominating the water cooler conversations here and elsewhere, but also world events like the recent earthquake in China. Our hearts go out to the families and friends of the more than 80,000 people who perished or are missing. It compels us to realize that we must make every moment count. While we're enjoying our barbecues and the fruits of our professional labors, we must also help others wherever and whenever we can. We must think positively, work hard, work smart, and make the most of what we have.

Thank you for your interest. We appreciate the opportunity to work with you to bring **Precision, Efficiency, Reliably and Safety** to your customers.

Sincerely,



Mac Stuhler
Vice President
Control Products, Inc.

Feature Articles

Good Programs, Great Channel: Our Visit with Genelco

We were recently paid a visit by our exclusive North American distributor, and we knew we had to tell you about it right away, because **Genelco Industries** can do for you what they've been doing for us for about 15 years: handle your distribution needs with the kind of skill that isn't always easy to come by.



When CPI finds a skilled business partner that knows its own business as well as it knows ours, we stick with them. And since we like all our partners to be successful, we'd like to share a little news about Genelco.

Here's a brief recap. We began working with Genelco in the early 1990s to develop a limited distribution program for our waterproof switches. Located in Ronkonkoma, NY, Genelco employs more than a dozen people and has 10,000 square feet of warehouse space. Over the years Genelco's role has expanded to become CPI's exclusive North American distributor for our full line of waterproof and thermal switches.

Genelco has more than 20 years of experience distributing a vast array of electromechanical products, including switches, circuit breakers, relays and display components. They have proven themselves as a technically capable sales channel, providing the services companies like ours-and perhaps yours-need for consistent growth of sales, such as stocking programs, OEM distribution management, industry-specific marketing projects and more.



Genelco's skilled staff, particularly Sonny Valone (R) and Dave Rzasa (L), have helped us stay strong all year long, which in turn allows us to help our customers meet their own strategic short - and long -range goals.

[\(back to top\)](#)

Trade Show Report

The Pros at ConExpo

[ConExpo](#) is the world's largest trade show for non-automotive vehicular manufacturers, a product segment that represents our single largest market. It's one of the important trade shows in which CPI is involved each year.



ConExpo took place March 11-15 at the Las Vegas Convention Center. Once again, it set records for attendance (144,600 attendees), exhibit space (211,966 sq. meters), and number of exhibitors (2,182 companies). We were pleased to have been strategically located in the controls section of the hydraulics pavilion, so the folks coming through were specifically looking for the solutions that we provide.



Show visitors and booth visitors ranged from contractors interested in the latest technologies, to chairmen of fortune 500 companies looking for new routes to Precision, Efficiency, Reliability and Safety (our corporate calling card). There was a sharp focus on our SL Series linear position sensor-the 'better mousetrap' that the industry is looking for. (See related story below.)

At ConExpo we also introduced the world's best dump body detect switch, and we had the opportunity to discuss a wide variety of limit switch applications with the presidents, engineers, managers and foremen from many manufacturers. Challenges we discussed ranged from replacing proximity switches with high-overtravel [E Series limit switches](#), to providing extremely durable and reliable sealed plunger switches for mud/water/dust environments on mining equipment ([J4 Series](#)).



It was a great place to show off, and an equally great place for others to pick up valuable industry news, information and ideas.

CV in the UK

We also crossed the pond to attend the [Commercial Vehicle Show \(CV\)](#) at the National Exhibition Centre in Birmingham, England, where our waterproof products made a good showing. CV is Britain's equivalent to the Work Truck Show here in the U.S., which took place in Atlanta this past February and focused on over-the-road transport.



This was CPI's first time exhibiting at the CV show. We worked in conjunction with International Precision Products, our European sales organization (www.ippbv.com) to discuss with visitors how we meet applications involving dump body detect, tail lift control panels and a wide variety of E1 Series limit switch challenges.

Opportunities from this show represent completely new potential for CPI. We look forward to working with these companies as we're always eager for a technical challenge.

If you have a need for a robust switch solution in a difficult application, please feel free to contact us at +1 973 887-9400 or [drop us a line](#), and let's see what we can accomplish together.

The First Position Sensor For Mobile Hydraulics Which Does Not Require Gun Drilling - Now Closer Than Ever

We're on the final straight to bringing [SL Series Sensors](#) to production. With rigorous lab testing completed and extensive field tests in process, a qualifying production run of sensors is scheduled to begin next month. This has been a ten year plus long road from opportunity identification to product refinement. From the early days of product verification, we viewed this as an ambitious project. Not surprisingly, the further into the journey, the more challenges we found. So, deploying a completely new technology may throw you a few curves - big revelation, right? ([Here is where you can learn more about SL Series technology.](#))



As I mentioned above, we enjoyed many conversations at this year's trade shows which reaffirmed our position that we have the better mousetrap for automation of mobile hydraulic equipment. Earlier this year, we visited with the product development groups of two major manufacturers of construction equipment, and the question is always the same - How fast can we get evaluation units?

So, hang in there, the checkered flag is in sight. Check in with us at www.cpi-nj.com for announcements in the near future.

Next Generation Military Vehicles Demand Even More Ruggedness. Enter the J4 Series

CPI has a long history of providing outstanding switch solutions for military programs dating back to the 60's. Products have been provided for vehicles such as the M939 five ton trucks, various tank programs, the Hummer, and several amphibious vehicles to name a few. The new generation military trucks are very sophisticated and capable off-road vehicles, which incorporate the latest armor technologies to meet the demands of today's war. It only follows that the requirements imposed on the components specified for these vehicles are more rigorous than ever.



CPI has recently been called upon to solve application problems on the new LTAS (Long Term Armor Strategy) variant of the FMTV (Family of Medium Tactical Vehicles) where a limit switch was failing in the field testing.



Within days, we provided a J4 plunger switch configured for this application for a field test. In another instance, we were asked by the US Army to provide more robust switches for several versions (JERRV and RG-31) of the MRAPs (Mine Resistant Ambush Protected) vehicles, which are vital to protecting our troops. These trucks are so heavily armored that hydraulics are used to assist in opening the doors. Within

one week, CPI Regional project managers were on site to determine the best switch solutions, and J4 Series prototype units for two applications were supplied within three weeks.

We believe that our [J4 Series](#) limit switches are the most rugged in the world, and we are proud to be a part of supporting the efforts of the U.S. military.

For more information on new developments and advancements in the arena of military transportation, please check out these sites:

BAE and FMTV:

<http://www.army-technology.com/contractors/vehicles/bae-systems/>

MRAP:

http://en.wikipedia.org/wiki/MRAP_%28armored_vehicle%29

[\(back to top\)](#)

Application Spotlight

Aerospace Report: Flying High with the X1



Britten Norman, manufacturer of the defender 4000, a very efficient, low operating cost aircraft, presented us with a problem that needed a "responsive" solution. The customer explained that the cabin heaters sometimes go out and fail to ignite. With the temperature dropping, the system still calls for fuel, which leaks from an exhaust vent. Unfortunately, the fuel is able to reenter the aircraft skin, forming pools inside the fuselage.

A fast acting thermal switch was needed to indicate that heater has shut down. [CPI's X1](#) activates a relay, which closes the fuel valve, disables the heater ignition and warns the pilot. Fast response time was key in this application to minimize fuel ingress.



The Defender 4000 is an un-pressurized aircraft and is capable of flying up to 18,000 feet. Directed at civil as well as military markets, it is used primarily for surveillance.

[\(back to top\)](#)

Product Feature

Meeting the Diesel Challenges: The J4 Series

Air shut-off valves, as they are known in the diesel engine world, play an important part in ensuring product longevity and reliability. These valves provide diesel engine overspeed protection, which might result from a cooling oil leak in the turbocharger. It is vital for engine management systems to know the state of these valves, to prevent catastrophic engine failure.



This is where CPI's J4 Series come in. The switch which senses the valve position must perform in a very harsh environment, which presents high temperature, vibration, and in some cases pressure, along with the usual outdoor elements. In a recent application, the switch was to be presented with a harsh side load means of actuation. This adds to the mechanical endurance challenge, as well as complicating seal design. Pictured above is a variant of CPI's

J4401 which provides a large stainless steel simulated roller ball actuator, and utilizes a ball bearing slide design to ensure smooth operation over the long haul.

The actuator on this version features a high temperature capability of 400°F!

Pictured here is a valve from Roda Deaco, the premier manufacturer of positive air shut down systems for diesel engines, based in Alberta, Canada.



For more information on the [J4 Series](#) - or to see how CPI can rise to any other challenge you may have-please call us at 973.887.9400, or send us an email. You can also check out our full line of products at www.cpi-nj.com.

[\(back to top\)](#)

Seven decades of combined experience: A Visit from Two Associates from International Precision Products

It's always nice to have visitors from our selling arm across the pond.



Joachim Hassfurth (R) and Frank Macutkiewicz (L) have been with IPP for 35 and 33 years, respectively, bringing quite a lot of valuable experience to the relationship.

Joachim has been with IPP since January of 1973. While he hates golf, he continues to play weekly, according to Michael Wolff, IPP's Sales Director. Joachim enjoys travel with his wife, Brigitte, last year taking the Siberian Express across Russia.

Frank joined IPP in September, 1975. He's enjoys golf with his wife Linda, but now spends more time trying to convert his collection of Mini Coopers from boxes of parts into running cars, according to Wolff.

Let us know if you, too, would like to visit CPI. Call us at 973.887.9400 or [drop us a line](#). We're waiting to hear from you.

[\(back to top\)](#)

Challenge + Motivation = Win for Sussex Tech Team:

And now the full the story



[In the last issue of SensAbility](#) we started telling you about a group of high school students in Sussex County, NJ, who defy a commonly-held belief that teenagers can be awfully lazy and aimless.

Quite the contrary, these youngsters, from Sussex County Technical School in Sparta, designed and constructed a submarine they dubbed Umptysquatch, which took third place in an [International Submarine Races](#) last year, and first place in the innovation category, *successfully competing against college level engineering students.*

A couple of [CPI waterproof switches](#), as you may recall, played an important part in the amazing story - which we are now happy to share with you in its entirety on our website.



Check it out at <http://www.cpi-nj.com/umptysquatch>

[\(back to top\)](#)

Visit the SensAbility Archives.



With every issue of SensAbility we bring you industry-related news, product announcements and real-world applications that have brought **Precision, Efficiency, Reliability and Safety** to our customers. We've archived each issue of SensAbility on our website, www.cpi-nj.com. You can go [right to the archive page here](#).

[\(back to top\)](#)

CPI Spotlight

Dev Lamba and the Garden of Innovation



It took a while, but Dev Lamba ultimately reached his professional goal, and eagerly thanks CPI for the opportunity. Of course, that would not have happened if Dev didn't have the skills, drive and work ethic that he exhibits each day in the prototype and test department. But he does, and the results have been beneficial to Dev, to his family, and certainly to CPI.

Educated in his native India, Dev wanted to study engineering, but he was unable to follow through on that at the time. He studied entomology instead. Upon graduation

he became a university research assistant. Shortly thereafter, he relocated to Ethiopia with his wife Bejinder, where he taught high school physics for nine years.

Although he made the most of his profession in Ethiopia - he even authored two textbooks for his school - political strife in the mid-1970s prompted Dev and his wife to leave the country. By now they had two daughters, Konjit and Sofia, and he wanted them to have more opportunities, professionally and otherwise, than they would have had there. So he emigrated to the United States. Unable to teach here, Dev went back to school to study programming and engineering. His brother, who lived in Albany, NY, suggested New Jersey as a home state for Dev because of its significant role in science and engineering.

After working at another company for about a decade, Dev came to CPI in May 1978. "That was my great fortune," he says.

Hired as a programmer and operator in the Computer Numerical Control (CNC) department, Dev ran what he called a "one-man show" at the time, but when CPI purchased more CNC machines, he was asked to train others to run them while he was given a chance to move into the engineering department. "That's when my dream was fulfilled," he adds proudly.

As a prototype and test engineer at CPI, Dev, in conjunction with his four colleagues in the Engineering Department, is responsible for designing new parts for CPI products that are being developed. "I get drawings from those who are designing the products, and from those drawing I begin the process of manufacturing the parts. They are unique parts," Dev explains, "I have to reinvent the wheel every time. It's challenging because I have to find new ways of doing things and often I must improvise. That's what makes my job interesting, and that's why I love it."

Once Dev's prototypes pass rigorous tests, they move to manufacturing and become new CPI products.

Having just completed 20 years with CPI, Dev anticipates few changes in the near future, other than his eventual retirement. For the time being, he is entirely comfortable in his role at the company, particularly because of the support he and his colleagues receive from management. He also appreciates his professional relationships at work. "CPI," he states firmly, "is an extended family."

Meanwhile, his other family - the one at home - provides the kind of love and support that makes all the hard work more than worthwhile. His family, which now includes his daughters' husbands and their parents, are all very close. They even travel together, most recently to the Dominican Republic. Dev also anticipates a

return trip to Hawaii, where he and Bejinder had a marvelous time several years ago. In addition to travel, he is an active gardener. "In Denville, where I live, there is a community garden where I have my own plot. I grow vegetables there and at home I grow flowers." He often brings the results of his gardening efforts to CPI to share with fellow employees.

In addition to enjoying his family, his hobby, traveling, and his active lifestyle, Dev enjoys the knowledge that he is in his chosen field at a company that supports his need to make a positive difference in the engineering world. "I am very comfortable here. I'm not going anywhere else."

[\(back to top\)](#)

Closing Thoughts

CPI is Happy to be Behind the Scenes

Perhaps we should say "within" the scenes. CPI's switches are embedded technologies. If you use machinery that contains a CPI temperature sensor, for example, you won't see our switch from the outside of the equipment. It's embedded inside and becomes an integral part of the machine's operation. We don't mind being hidden because our components play a critical role in making sure your equipment performs optimally and precisely, remains reliable, and, most importantly, keeps the machinery and the operators safe. What do you need "behind the scenes" to make your equipment more precise, reliable, and safe?

[\(back to top\)](#)

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[\(back to top\)](#)

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[\(back to top\)](#)