



Thought Leadership

Capacitive Level Sensor
& Hall Level Sensor

PARTNER | SOLVE | DELIVER®



Travis Lane
Director, Global Business Development

Interview
CLS and HLS Products

Opening

Tell me about Standex Electronics, the company

Standex Electronics is a global organization that provides a wide array of standard and custom sensors, relays and power magnetics across a diverse array of end markets. Our global headquarters is located in Cincinnati, Ohio, and we have a large global footprint with facilities in Germany, UK, Mexico, Shanghai, Japan and several other US-based locations.

What's your role, and impact you drive for the business?

My role as Director of Global Business Development is a hybrid role that focuses on our product and company strategy as well as support the day-to-day new business opportunities through our field application engineering team. Since I've been with the company for 15 years, my engineering background and experiences allow me to have a strong understanding of the markets, products and our capabilities to support both short term and long term strategic initiatives.

What makes your company unique compared to competition (craftsmanship, care, partner / solve / deliver, problem solvers, full suite of solutions...)?

One area that makes us unique is our vertical manufacturing capabilities. For example, we manufacture a fluid level sensor for automotive where we manufacture the reed switch, mold the float and housing, stamp the terminals and assemble / test the sensor solution. Not many manufacturers in the world have these capabilities, as well as the capabilities to offer this service in different regions of the globe.

We also focus on a partner / solve / deliver approach in working with our customers. We do not consider ourselves as a commodity player, so one of our competitive advantages is to strategically partner with our customers, solve their technical and commercial challenges and finally deliver a high quality engineered solution.

What stands out about Standex to you?

The passion in the organization and the products from the President to all employees is unique. Our team cares about what they do because they know our products make a difference in the lives of millions of people every day. From ensuring you have enough brake fluid in your vehicle, to securing your home, measuring power on the electric grid and powering medical imaging systems, our products make a difference and the passion our employees have is displayed through the quality products we deliver.

What are your favorite elements of working with Standex, and the business overall?

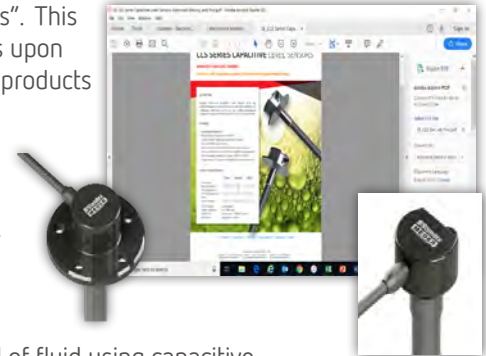
Our ability to participate in so many end markets is very unique in our industry and this provides an element of excitement as you are never working on the same thing every day. In addition to the products & markets, the working environment and culture are extremely positive and the values of our team radiate throughout the organization.

Capacitive Level Sensor

Tell me about the CLS

CLS stands for "Capacitive Level Sensors". This is a new product for Standex and builds upon our extensive line of fluid level sensing products and technologies.

See product datasheet & flyer here:
<https://standexelectronics.com/resources/technical-library/brochures-catalogs/product-solutions-clc-series-capacitive-level-sensors/>



What does it do, and what are its benefits and features?

This is a sensor that measures the level of fluid using capacitive technology. There is an inner rod along with an outer tube, and as the fluid rises in the tank, there is a very small capacitance change between these two surfaces allowing us to calculate the level of fluid. In order to measure this level, the dielectric of the fluid must be known and be fairly stable during its life, as this is the main measurement principle. So, unlike our reed-based level sensors, there is no float required, making this ideal for high temperature, tight spaces and non-vertical orientation applications.

Why did this product come about, and why should the market care?

Our engineering team was working with a customer that had a narrow opening in their tank which proved to be extremely difficult to achieve with a float-based level sensor. This combined with the angle at which the sensor was positioned proved to disqualify float level sensors from the options, leaving us to explore other technologies to provide the customer a solution. We developed this product for a specific need, however in further analysis, we determined there is a larger market for this technology, which is why we developed a standard product platform known as CLS.

What did it take to create this product, such as engineering, design, tooling, testing...?

This was a 2 plus year product development initiative, with several design iterations and extensive validation testing, including thermal shock, salt spray, EMI, mechanical shock & vibration, among others. The design requirements forced us to stretch our typical thinking with our engineering team that typically engineered solutions using reed switches and magnets. The crossover to electronic sensing technologies is not a minor task and our team developed a robust solution for the market.

How will it help customers (solve problems, impact to business, solutions provided...)?

This technology provides customers an alternative technology to measure the fluid in their application. Rather than forcing our customers into a technology, this allows our engineering team to work closely with the customers engineering group to develop a solution that best fits the requirements for their application.

Where do you see this technology and product going from an innovation standpoint, and in the future?

I believe the capacitive sensing technology will continue to expand within our R&D group and additional products may be developed over time.

How can someone get in touch with Standex and buy this product, or have a discussion of if it's a fit?

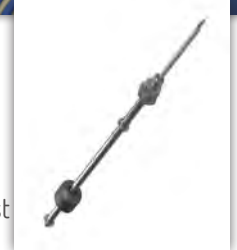
Our global sales and technical teams are available via phone, web and email. Our website has information about this technology, as well as simple request forms to contact our group.

Hall Level Sensor

Tell me about the HLS

HLS stands for Hall-effect Level Sensor. This is a patent-pending design that is an exciting new fluid level sensor technology for our group.

See product datasheet & flyer here: <https://standexelectronics.com/resources/technical-library/brochures-catalogs/product-solutions-hls-series-hall-effect-level-sensors/>



What does it do, and what are its benefits and features?

This design uses unique hall-effect chips along with a custom designed float to provide an extremely fine resolution level sensor. Most of our level sensors utilize reed switches, which can provide level output in specific stepped increments, typically down to $\frac{1}{4}$ " (Roughly 6mm). This is fine for many applications, however there are many applications that need much tighter resolution to determine fluid level, and this technology allows us to get down to less than 1mm of resolution. This is essentially a true analog output.

Why did this product come about, and why should the market care?

Similar to our CLS product line, this was a customer driven innovation. We actually had several customers that wanted tighter resolution than our reed sensors could provide, and these needs forced us to develop this solution. As the industrial internet of things continues to expand, the need for precise fluid level sensing will grow. Our ability to adapt with the market trends ensures we stay at the forefront of our customers challenges to partner-solve-deliver innovative products.

What did it take to create this product, such as engineering, design, tooling, testing...?

The HLS sensors went through many months of trials to determine the optimal combination of hall-effect sensors and magnet positioning to provide this analog output. Once the design was established, validation testing was also done to ensure our design as robust enough to meet the critical parameters defined by some of the most extreme applications.

How will it help customers (solve problems, impact to business, solutions provided...)?

As we continue to expand our sensing technology offerings we essentially have a larger toolkit for our engineering team to provide solutions for our customers' needs.

Where do you see this technology and product going from an innovation standpoint, and in the future?

I believe we are just scratching the surface with the HLS technology, and what it can provide to our customers. There are many areas we can explore beyond fluid level and will spark additional product innovations for our toolkit.

How can someone get in touch with Standex and buy this product, or have a discussion of if it's a fit?

Our global sales and technical teams are available via phone, web and email. Our website has information about this technology, as well as simple request forms to contact our group.

You are encouraged to get in touch with Standex Electronics to discuss your market, product, and application needs with one of our Engineers today at www.standexelectronics.com!



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