

The Worldwide Leader In Sensor Innovation

BH SENSORS DEVELOPS AND LICENSES UNCOMPROMISING SENSOR TECHNOLOGY FOR GOVERNMENT, INDUSTRIAL AND COMMERCIAL MARKETS.

Talk To Us Today



A New Way of Thinking About Sensors and Sensing Systems

BH Sensors emerged in response to a growing need for advanced, accurate, and cost-effective sensor solutions. We operate under the belief that accurate, robust, and economical aren't mutually exclusive. With the right technology and development process in place, you shouldn't have to choose one or the other.

We have years of hands-on experience designing systems that meet modern business needs in this very way. Top universities, research facilities, and Fortune 500s from all over the world regularly seek out our applied R&D engineers for their technical insights. We proudly integrate all of this expertise into the solutions we design to custom-fit your technology.

Learn More About Our Team

In Our Lab Innovation Is Routine

Traditional sensors involve numerous components and steps that only complicate design. Signal conditioning, amplifiers, intermediary electronics, analog-to-digital converters—all of this and more slow time to market, add room for error, and drive up spend.

Our patented technology removes these unnecessary pieces. By manipulating the natural electromagnetic fields in supporting structures, we've created much more efficient and dependable sensors and systems. We deploy this technology to monitor critical physical parameters, including temperature, force, load, pressure, displacement, proximity, and torque.

The result is a superior solution that maintains high accuracy without the high cost. This applies as much to a form, fit, and enhanced-functional replacement for an obsolete sensor as it does to a new, first-of-its-kind sensor solution.

Learn More About Our Technology

Proximity Sensors Read More >>

Flow Sensors Read More >>

Force Sensors Read More >>

Weight Sensors Read More >>

Position Sensors Read More >>

Pressure Sensors Read More >>



Our Promise to You

When we talk about the BH Advantage, we're talking about a promise. You'll never receive a me-too, off-the-shelf solution. You'll never be forced to sacrifice one quality for another. And you'll never have to worry about overspending on an underwhelming product.

Our versatile technology and whiteboard approach benefit you in three key ways:

- **Innovation:** Our respected thought leaders keep pushing the boundary of what's possible with sensors further and further. We'll provide you with the most advanced solution available, period.
- **Performance:** Our passion lies in creatively realizing our designs to support your business. We offer exceptional technology that's accurate, scalable, rugged, and optimized for your needs.
- **Value:** We actively minimize material and manufacturing costs. You should never have to pay more than you need to. That includes the long-term cost of ownership beyond the sensor itself.

[Learn More About Our Advantage](#)



Defense Solution Specialists

We've designed our sensors and sensing systems to meet the highest of military standards. The technology we develop for you has already been approved and qualified by the US Department of Defense, instantly accelerating your project timeline. This combines with enhanced functionality and the ability to work within your existing configuration and footprint to offer unrivaled long-term value.

Our solutions are being applied and deployed to challenging defense applications across all branches of the US military. DoD qualifications include electrical, shock, vibration, environmental, and EMI/EMC.

[Learn More About Defense](#)

News & Insights

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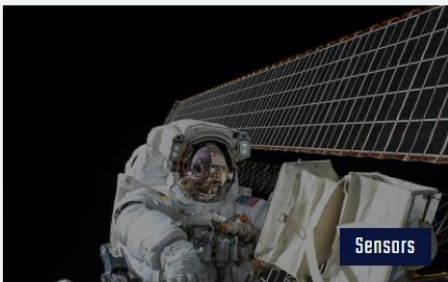


Sensors

Here's How Sensors Are Going To Change Everything

Think about some of the hottest new gadgets to hit the market in the last few years. Driverless cars and the FitBit [...]

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3 Space Industry Stocks That Are Delivering Astronomical Returns

From the thousands of satellites orbiting the Earth to the dozens of new companies promising space tourism, it is fair to say that [...]

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Sensors

3 Ways To Give Your Startup A Competitive Technological Edge

The Internet of Things (IoT) is the latest innovation touching major industries and is going to impact our entire world. As such, [...]

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We're Ready to Support You

We've provided a range of sensors and sensor systems to numerous Tier 1 public and private businesses as well as the military. Now we want to do the same for you. Let's talk about how our team of experts can customize a best-in-class solution that puts you a step ahead.

Contact Us

Clients



BH Sensors is a global technology leader specializing in customized sensors and sensing systems. It engineers, manufactures, and licenses patented technology for solutions featuring unmatched innovation, performance, and value.

Contact Us

BH Sensors

26 Firemens Memorial Drive, Suite 105

Pomona NY, 10970

(845) 369-6324 | info@bhsensors.com

About Us

LEADING SENSOR TECHNOLOGY IS JUST THE BEGINNING

Learn More From Our Experts



Positive Disruption in the Sensor Landscape

For decades, businesses faced hurdle after hurdle when searching for sensor solutions. Integration, lead time, functionality, and investment all presented their own challenges. This inevitably led to unfortunate compromises in key areas just to put some sort of technology in place as quickly as possible.

This all changed in 2003. Our founders believed there was a better option for customers that wouldn't involve this kind of sacrifice. That option became BH Sensors, and it turned the entire field on its head.



The Industry Thought Leader

We're proud to offer you a team comprising some of the brightest minds in technology today. Our interdisciplinary staff holds advanced degrees in electrical and mechanical engineering, physics, quantum electronics, microwaves and RF engineering, and embedded computer science.

More important than the academics, though, is how we apply that expertise. Our scientists and engineers have years of hands-on experience designing, fabricating, and prototyping the most innovative sensor solutions. We're constantly raising the industry bar, as shown by our growing number of worldwide patents.



Whiteboard Approach to Sensors

We're not the kind of me-too, off-the-shelf operation that was your only option for so many years. Our thought leadership allows us to start on your solution with a clean sheet of paper, literally. We believe in building sensors and sensor systems from the ground up.

This is what we call our whiteboard approach. One-size-fits-all is nowhere near good enough when it comes to optimizing sensors for your products. That's why we emphasize customization for every single one of our clients.



Unmatched Agility

Innovation comes from capability, not from size. In an enterprise-dominated industry, we've deliberately maintained a tight-knit, family-owned business to stay nimble and accessible. Our clients also benefit from credentials others may not have. For instance, our core technology is preapproved and qualified by the Department of Defense, allowing us to skip the red tape, save you expensive testing costs, and turn around solutions more quickly.

This makes us the preferred sensor partner across both public and private markets. Our clients span defense, aerospace, manufacturing, transportation, material handling, and automation, among others. It also makes us a trusted contact for outlets like *Inc.* and *HuffPost* when they need expert insights right away.

Together, these things have combined to produce the world's most advanced sensors and sensing systems. We're committed to creating more robust, accurate, and cost-effective solutions that go to market faster than anything you'll find elsewhere.

Get in touch today to talk directly to our experts about your unique sensor needs.

Contact Us

The BH Advantage

SUPERIOR SENSOR INNOVATION, PERFORMANCE, AND VALUE

Reach Out To Learn More

While Others Meet Some Needs, We Meet Them All

Sensing systems are as complex as they are crucial when it comes to your technology. It can be frustrating trying to find a solution that doesn't force you to trade cost for accuracy or volume for functionality.

We don't force you to make that decision. Instead, we develop products that feature everything you want in a sensor:

- **Market Differentiation:** Innovation helps distinguish you in any field. Our applied R&D is best in class.
- **Robust Solution:** Technical capability and accuracy are paramount. We don't compromise here, ever.
- **Reduced Costs:** No other developer can offer high-value, high-volume solutions without sacrificing quality.



Our Whiteboard Approach Makes This Possible

When our founders launched BH Sensors, they [disrupted the sensor industry](#). All of a sudden, a small, private business began offering better technology than established corporations while streamlining customer costs.

Not only that, but it turned the sales and implementation process completely around. No longer did buyers need to choose a preexisting solution, hope it would fit well, and then settle for "good enough" if it didn't. The real value came from the fact that what they bought was made for them, not for someone else.

This whiteboard approach to problem-solving is as [innovative as our technology](#) itself. We start with a blank canvas. We have no preconceived notions and aren't locked into any one material, configuration, or topology. This not only lets us design a solution exclusively for your business, it also eliminates any tunnel vision that would prevent us from spotting other ways to optimize performance.

The result is a form-fitting sensor that achieves your goals and respects your budget.

Our Customers Benefit in 3 Major Ways

Innovation	Performance	Value
<ul style="list-style-type: none"> • Virtually unlimited topology options for sensing structures • Any frequency can be used as a sensor operating point • Electrical and mechanical designs are optimized independently • No restriction on materials used for target construction • Various materials can fill the target / transmission interface region • No signal conditioning through an unnecessary intermediate device <p>Electromagnetic structure topology: Regardless of what topology the application dictates, we're able to work with it. Coax, planar, waveguide and coplanar waveguide, microstrip, and slotline are all in play.</p> <p>Frequency independence: We're not restricted by a specific frequency as an operating point. Higher frequencies allow for sensor miniaturization for devices like accelerometers. Lower frequencies are ideal for macro sensors such as load cells and proximity sensors.</p> <p>Independent optimization: The mechanical target and electronic sensor structure only interact through the electromagnetic (EM) field. Since they never physically connect, they can be optimized separately for sensing applications. In short, we've made electro-mechanical coupling interference a nonissue.</p> <p>Target material: EM fields interact with everything. That means any material can be used as a target to be detected—metal, semiconductor, insulator, cement, ice, bone, etc. This makes it convenient for designers to easily match any of the many topologies available.</p> <p>Non-contact interface: As long as it allows the target to displace, any material can fill the interface region between the target and sensing part of the structure. This includes structures that must stay sterile for transporting items like blood and plasma.</p> <p>No signal conditioning: We've removed the usual intermediate electronics between sensors and end devices. Our technology's inherent digital output eliminates this complexity for a more reliable and cost-effective solution.</p>		

Put These Benefits to Work For Your Business

Our BH Advantage is your competitive advantage. We invite you to learn more about how our solutions will equip you with the sensor technology you need to excel.

Contact Us

Our Patented Sensor Technology

WHERE INNOVATION MEETS CUSTOMIZATION AT A FRACTION OF THE COST

See How Our Technology Fits Yours

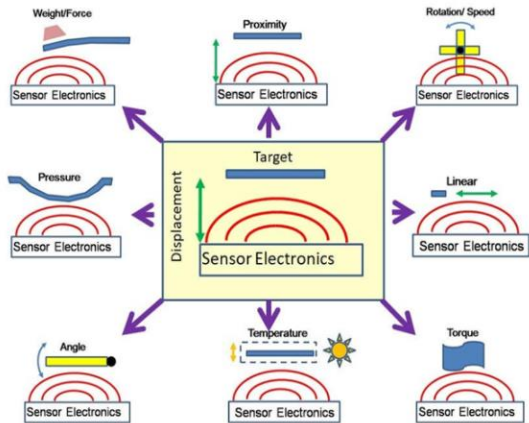
Our Adaptability Puts You in Control

You won't find a more versatile sensor and sensing system developer anywhere in the world. Our [whiteboard approach](#) uses your unique needs as the foundation of what becomes *your* solution.

What seems like such an obvious method isn't possible without the tools to make it happen. The proprietary technology we've patented globally allows us to do just this. Supported by the continual innovation of our [widely-respected R&D team](#), our technology overcomes many of the limitations often found elsewhere in the industry.

Partnering with BH Sensors means you'll never need to worry about:

- Limited construction materials that don't fit or drive up the price
- Being locked into a specific footprint due to generic products
- Trading accuracy for cost or other important features
- Reliability in harsh or abusive environments
- Constant field calibration or maintenance
- Jumping through hoops with the [Department of Defense](#)



From Thought Leadership to Technical Application

As history has shown, big steps forward often come from small ideas. In our case, we simply took an existing problem in one area and turned it into a solution in another.

Our innovation revolves around electromagnetic (EM) fields. These fields transport energy from point to point and are used in everything from TVs to cell phones to cutting-edge industrial devices. Transportation requires transmission lines such as coax cables, fiber optics, etc., that shield fields from their surroundings.

Properly-functioning transmission lines deliver EM fields to end users with little energy loss. Poorly-constructed or performing lines cause fields to "leak" out. In almost any case this is wasteful and costly. The exception, we realized, is when it comes to sensors.

Our solution doesn't fix this leak, it deliberately causes it. Using the perturbation principle, we control how EM fields stray into the environment to turn a non-sensor transmission structure into a displacement sensor. This is the basis for the patented non-contact EM-sensing technology we use in our superior Tier 1 applications:

- Force, torque, load, and weight sensors
- Pressure, temperature, and acceleration sensors
- Proximity sensors
- OEM systems
- Wireless systems
- Embedded systems



See Our Solutions In Action

What Our Enabling Technology Means for You

We enjoy offering [demonstrations of the science and engineering](#) behind the sensors we develop for you. Of course, even more interesting is how these advances translate directly to your business.

First, we optimize the mechanical and electrical structures independently. This lets us customize the solution specifically for you. In other words, we start with a clean slate and move forward based on your application rather than shoehorning in a predetermined setup. Your development timelines, time to market, and manufacturing costs consequently all go down.

The other key feature is the simplicity and inherent digital output of our electronics. You don't need all the extra devices—signal conditioning, amplifiers, analog-to-digital converters—that have always been required. This drastically reduces downstream electronics, thus increasing reliability and savings.

As a result, our solutions give you a significant market advantage previously unavailable since the technology didn't exist. Our configuration enhances robustness and accuracy while costing less than other solutions that can't even make the same performance promises.

Let's Build Your Solution

For unbeatable products, you need unbeatable technology. We look forward to wiping down the whiteboard so we can start drawing up a custom system for your business.

Contact Us

Defense Technology

MILITARY-GRADE SENSOR SYSTEMS FOR CHALLENGING DEFENSE APPLICATIONS

[Discuss Our DoD-Qualified Solutions](#)

The Top Choice for Defense Projects

We engineer [our technology](#) to deliberately meet demanding military requirements. Right now, our sensors are being used in applications ranging from submarines and aircraft carriers to missile and weapons systems.

Our sensors are qualified for military standards covering shock, vibration, temperature, and EMI/EMC. More importantly, their construction allows for quick adaptation to meet your specific needs.

Together, our technology expertise, engineering, and approvals offer you a [considerable advantage](#) through military-sensor solutions that offer:

- **Accelerated development time:** Proven, customizable systems shorten timelines and eliminate additional Department of Defense approvals.
- **Solutions focus:** We start with a clean slate by focusing on your individual needs to make the most of your sensor-system footprint.
- **Reduced total cost of ownership:** We work within your current system to reduce and avoid new configurations, drawings, training, and manual revisions.



DoD Qualifications Include:

- **Electrical:** MIL-STD-1399, MIL-STD-704
- **Shock and vibration:** MIL-STD-167, MIL-S-901D
- **Environmental, EMI, EMC:** MIL-STD-461G (above and below deck), MIL-STD-802, AFF compatibility

See how our ruggedized proximity switches provide high reliability at low cost for US Navy aircraft carrier elevator operations.

[See Case Study](#)

Defense Competencies and Specifications

We've become the go-to technology partner for military-grade sensors. This is due to our understanding of what makes for reliable and rugged systems in this space as well as our proactive qualification of those systems by the Department of Defense. While working with us on these projects, you'll enjoy:

Obsolescence Mitigation

We've specifically designed our sensors to replace obsolescent components and extend program lifecycles. By focusing on the existing solution's footprint and its physical and electronic characteristics, our patented technology fully integrates within your existing application. It fits the same form, fit, and function as the previous component, reducing your total cost of ownership and meeting short- and long-term goals.

[See Case Study](#)

Form, Fit, And Enhanced Function

We engineer systems to meet the form, fit, and function requirements of your program. This extends program lifecycles and enhances mission readiness. Our leading sensing technologies also provide enhanced functionality within the physical and electrical footprint of your existing system. In short, we meet every spec and offer greater versatility than the original design.

[See Case Study](#)

Pre-Qualified Technology

Our advanced sensing technologies have been pre-qualified to operate in military-grade applications. They're already at work in defense programs and available for adaptation to your application requirements. We simply leverage DoD-qualified core function electrical components, topologies, and designs in a modular form factor that's integrated directly into your design. This removes the time and cost otherwise necessary to re-qualify your devices.

[See Case Study](#)

Learn More About Our Defense Capabilities


Our military technology and relationships with the DoD help us build your solution faster and more effectively. Let's talk about what we can do for your defense needs.

[Contact Us](#)

BH Sensors Projects


BEST-IN-CLASS SENSOR AND SENSING SYSTEM SOLUTIONS

By controlling the interaction of [electromagnetic fields with their environment](#), we've created a more reliable and cost-effective displacement sensor. Take a look at how we've brought our patented and patent-pending technology to life for clients across a variety of applications.




Debris Sensors

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Flow Sensors

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Force Sensors

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Material Sensors

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Proximity Sensors

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Weight Sensors

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Let's Build Your Solution

Contact us to learn more about these projects and others or to get started on your own customized solution.

Contact Us

Contact Us

WE LOOK FORWARD TO HEARING FROM YOU

We always have time to answer questions and discuss your business needs. Feel free to call, email, or reach us through the form below at any time. We appreciate your interest and will respond quickly to your request.

Phone number

(845) 369-6324

Email address

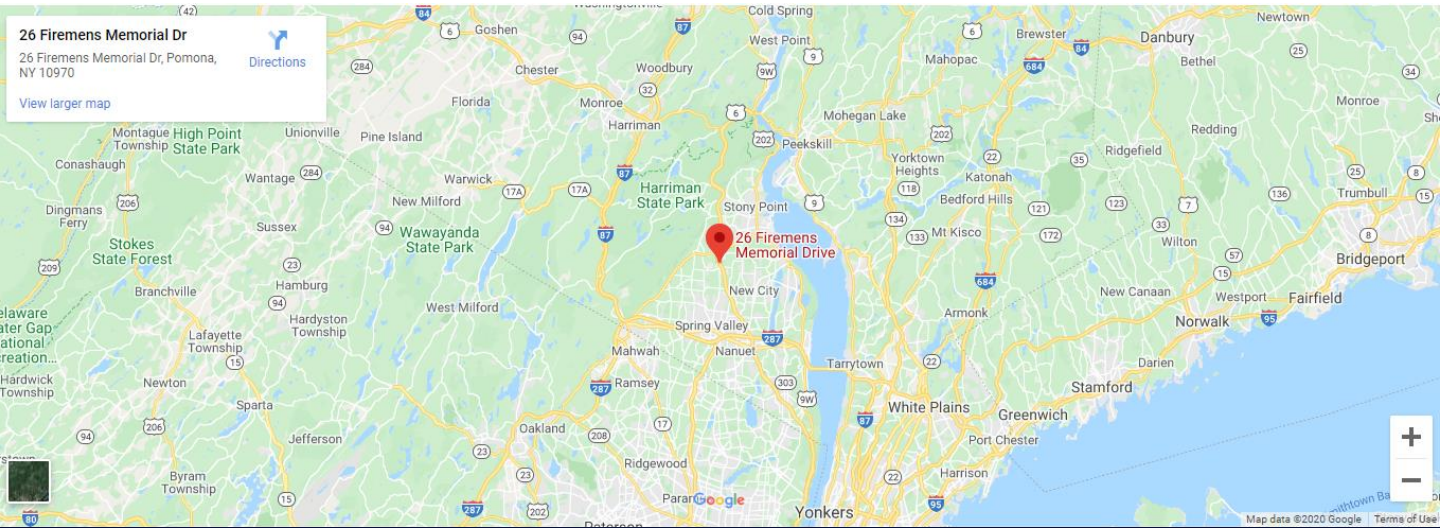
info@bhsensors.com

Address info

BH Sensors
26 Firemens Memorial Drive
Suite 105
Pomona NY, 10970

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BH Sensors is a global technology leader specializing in customized sensors and sensing systems. It engineers, manufactures, and licenses patented technology for solutions featuring unmatched innovation, performance, and value.

Contact Us

BH Sensors
26 Firemens Memorial Drive, Suite 105
Pomona NY, 10970
(845) 369-6324 | info@bhsensors.com