

CASE STUDY

Defending Against the Elements



BIVAR

www.bivar.com

Defending Against the Elements

Rain, sleet, dust, and sprinklers—irrigation controllers take on extremely harsh conditions. LEDs and light pipes connected to these systems need to endure the elements from sports fields to the lush landscaping in your community.

You can find our products illuminating nearly all industries. Leaders in communications, aerospace, medical, and more come to Bivar when they need to move LED light to a specific point, in, on, or around a product case, panel, or enclosure. LED lights are one of the primary interfaces between a user and an electronics product, communicating valuable system statuses like power, battery life, signal strength, warnings, and more.

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We give the same attention to customers, regardless of size. You're a startup; you're a huge corporation. It doesn't matter. We're here to serve everybody the same.

—Shirley Mercado, Bivar Business Development Manager

We know that a poor reading can negatively affect your user experience. So we take immense pride in helping you design top-notch products that expertly serve your customers. No matter how complex or straightforward, we have the experience and creativity to ensure light goes from point A to point B while addressing bends, curves, tight spaces, and technology demands.

The challenge

Take the irrigation industry, for example. A leader in smart water management needed LED illumination well protected against outdoor ingress. The potted enclosure underwent an epoxy sealing, meaning the chosen solution also needed to survive this manufacturing process. For an LED and light pipe that could handle this one-two punch of potentially punishing circumstances, the client approached the Bivar team.



How we solved it

We experimented with the sealing resistance of potential solutions in-house and presented a list of possibilities that met the client's budget while avoiding any heavy redesigns. What stood up against the use conditions of the final product? After exploring light pipe alternatives with and without integrated LEDs, we settled on an adapter with a built-in LED: our LPV Series.

The LPV slotted right into their existing panel and overlay. Its one-piece design prevented sealing resin from seeping between the light pipe and LED when poured. The extra retention of the adapter to the PCB added an extra layer of ruggedness, ensuring the level of ingress protection the client needed.

When positioned outdoors, glare and other factors can make it challenging to get an accurate read on a panel LED. A ZeroLightBleed™ rigid light pipe was the answer; eliminating the risk of crosstalk between adjacent light pipes that can lead to false readings. The LPV provided a uniform distribution of light across the overlay, bolstering visibility for field staff and technicians.

We hit the ground running and utilize every minute

At Bivar, we meet our customers where they are. We problem-solve to help you avoid changes to your enclosure, board, or panel; instead, let us find a solution that meets your needs.

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What sets us apart? Our first hand variety of engineering experience. We don't just have one background but many different engineers, including mechanical, electrical, quality, and more. We invest in different types of people and equipment to help with our research and design, such as our 3D printer, laser cutting machine, five-axis CNC, and more.

—Kurt Baron, Bivar Design Engineer

We back everything we do with care, creativity, and attention to detail. With over 50+ years of experience in the design and development of LED illumination and Circuit Board/Component Hardware, we are a trusted engineering-solutions provider.

We're all in this together

We become a natural extension of your in-house engineering team, bringing the same pride and commitment to your project that you'd expect from your internal staff. Our all-hands-on-deck mentality is rooted in a unique structure that not many other companies can mimic—Bivar is fully ESOP employee-owned. “We're all in this together,” explains Bivar Business Development Manager Shirley Mercado. “The work we put out benefits customers, sales channel partners, and employees in the long run.”

Long-standing relationships with major players across the globe

Quick engagement and responsive turnaround are two things we strive to bring to every project. We don't just find a solution and leave you to it, but we go the extra mile to coordinate purchasing and distribution.

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We have different options we can give a customer, such as priority expedite or air logistics to cut down lead times and meet delivery deadlines.

–Shirley Mercado, Bivar Business Development Manager

Suppliers, contract manufacturers, and distribution partners worldwide know us for our diligence, expertise, and commitment to service. This reputation grants us access to resources and supply chain arrangements that help us meet tight production deadlines.

Let's work together to illuminate your next innovation

When you're faced with the unexpected, you need an illumination partner willing to explore the details. At Bivar, we illuminate the way for innovative engineering teams so they can get sophisticated, quality products to market with confidence.

