

Rachio Smart Sprinkler Controller

Extending the Smart Home into the Smart Yard



THE CHALLENGE

Typical sprinkler systems waste up to fifty percent of the water they use, and the founders of a Colorado startup called Rachio wanted to change that.

Rachio had already put a revolutionary product on the market: a small, wall-mounted controller that works with existing electronic irrigation systems to make watering smarter and more efficient. The WiFi-enabled Rachio system gives owners full control via a dedicated smartphone app and uses real-time local weather data to make watering in the rain a thing of the past.

But as their product gained popularity, Rachio realized they needed to redesign if they wanted to scale up and head off potential competitors. Their founders approached Bresslergroup for help designing a Generation 2 with technical upgrades and a lower price point that is also easier to manufacture, install, and use.

The Approach

Bresslergroup assembled a project team combining industrial design, mechanical and electrical engineering expertise to ensure that each of Rachio's goals got full consideration.

The second-generation controller uses half as many parts as the original, eliminates screws and external fasteners, and condenses three PCBs worth of electronics onto one. By reducing assembly costs, Rachio was able to keep all of its production in the U.S., and by consolidating connectors into a single array, the device makes multiple watering zones easier to setup, and easier to reconfigure.

An improved visual display lets users see at a glance that everything's working — indicator LEDs integrated into the Rachio logo on the unit's face are a sleek way of letting users know which zones are running. The front cover incorporates subtle texture variations to convey the concept of "digital rain." Human factors considerations went into developing a wiring bay that is more clearly labeled and leaves more room for wiring and for installers' fingers and tools.

Bresslergroup's electrical engineers added sensor inputs to support rain and freeze sensors as well as flow sensors to collect accurate data on water consumption. Swapping out the original chipset for the more cost-effective Marvell module makes Wi-Fi setup easier. The new module also future-proofs Rachio by making it compatible with other IoT hardware.

The Solution

The Smart Sprinkler Controller Generation 2 furthers Rachio's mission of extending the smart home into the smart yard.

It includes the first ever smart sprinkler direct integration with Amazon Echo and Alexa. This integration lets Rachio users implement weather delay and zone control commands, simply by using their voice. Generation 2's integration with Alexa provides users the most connected smart sprinkler controller on the market and seamlessly extends the smart home into the yard.

It can efficiently water as many as sixteen zones, and includes: additional sensor options for flexibility; a sleek and more compact design; more seamless, user-friendly set-up process; customized enclosure; LED lights to provide status alerts; manual controls on the box; and a reduced MSRP.

DESIGN VALUE



Financial Value

Rachio was first to the residential market with a WiFi-based, smart irrigation controller. Since releasing Generation 2, it has become the first smart home company to earn B Corp certification, making it a leader in the smart watering and smart home technology industries. It's also the only sprinkler system to integrate with Google Home and Alexa so users can operate the irrigation system using their voice.

These and other factors have led to Rachio's market-leading position with extraordinary year over year growth. It is one of the highest rated products on Amazon, holding the #1 and #2 positions in the Amazon top 10 since launching on the site. It is widely distributed — online at Amazon, Home Depot.com, Best Buy.com and Lowes.com; in retail at Home Depot, Best Buy and Lowes; and in distribution from Ewing, Siteone, Central, and other leading PRO distributors. A third generation is in the works, and the CEO anticipates an IPO.

The product was a Finalist in the 2017 IDEA awards and was honored with the 2016 Gold Excellence in Design award in appliance Design's Outdoor & Leisure category.

Social Good

Rachio is EPA WaterSense Certified, meaning it conserves up to fifty percent of outdoor water use. That translates into thousands of gallons of water per year, per household. This is especially relevant in parts of the United States where water scarcity is an issue. Since it was launched in 2013, the system has saved 4.5 billion gallons (and counting). It also helps reduce runoff by breaking up watering schedules into smaller periods to maximize soil absorption, making it harder for fertilizers and other chemicals to flow into nearby streams or lakes.

The product is manufactured by U.S. contractors, which creates local jobs and reduces shipping and waste. Most of these contractors are located right in Colorado, where the company is based. And Rachio is starting to amplify its environmental impact by working with water utilities. The company recently completed a pilot study with the largest water utility in the country, America Water, that saved the utility millions of gallons of water while generating great customer satisfaction.

Customer Value

Unlike many smart products, onboarding for Rachio is notably easy. In 30 minutes or less, the customer is able to replace their old controller and connect Rachio to their WiFi. They are also able to monitor and adjust their sprinkling systems from anywhere via a smartphone app. This ease of use empowers consumers to save up to fifty percent off their monthly water bill while knowing they are helping to conserve one of the planet's greatest resources.