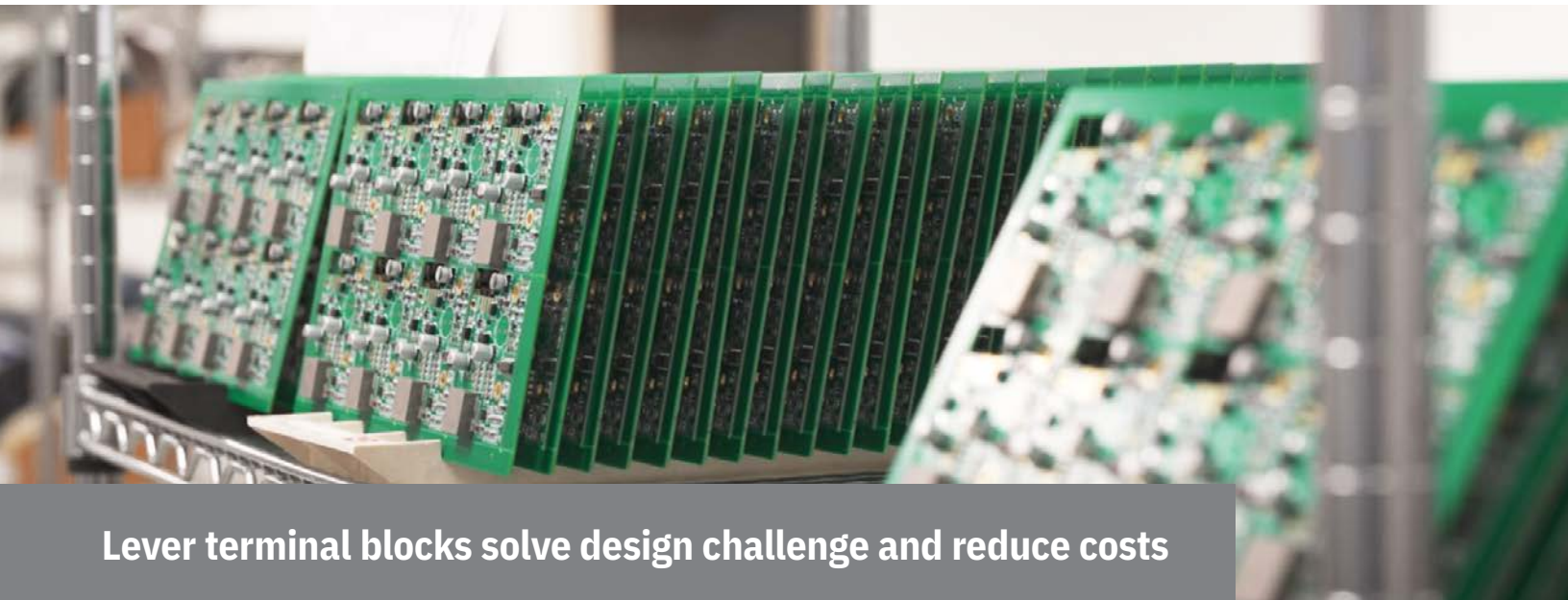




Lever terminal blocks solve design challenge and reduce costs

Highlights:

- A water sterilizer company asked RLC Electronic Systems to design a new controller that would be easier to install
- A previous version had lever-style terminal blocks that bumped into the enclosure wall
- RLC selected the LPTA 2.5 terminal blocks, which offer tool-free lever connection

“Our relationship with Phoenix Contact is a reciprocal relationship...If I have a connector issue or question, I can reach out to Ben to talk about the application, and he comes back with possible solutions”

Zach Martin

Customer profile:



Figure 1: RLC Electronic Systems, located in Sinking Springs, Pa., is a one-stop shop providing innovative design and high-quality, cost-effective manufacturing of electronic systems.

RLC Electronic Systems, located in Sinking Springs, Pa., is a one-stop shop providing innovative design and high-quality, cost-effective manufacturing of electronic systems. (Figure 1)

Zach Martin, the director of engineering at RLC Electronic Systems, explained, “We do OEM builds for a variety of companies. They bring us a product idea, and we’ll come up with a solution. We do embedded software, electronic controls, and box builds. Whatever a customer wants, we’ll propose a solution and manufacture it here in-house. We’ve worked in things like cryogenic materials handling and water sterilization. We’ve done infotainment systems for cruise companies and gaming companies. You name it: anybody who wants an embedded device to control something can come to us to find a solution.”

continued →



Challenge:**Lever connectors without tools**

RLC Electronic Systems was tasked with redesigning fixed connections on PCBs for a UV lamp timer used in water treatment.

Zach said, “We’ve had a longstanding relationship with a water sterilizer company. We’ve built multiple controllers for them to handle different applications for water treatment, and they came to us looking for a new device. They wanted to make it simpler to install. They wanted an easier, tool-less way of doing it.”

The customer was already using lever-style terminal blocks from another manufacturer, but the levers were on the side. When the PCB was inside the enclosure, the levers bumped into and blocked the enclosure wall. The customer wanted to keep spring connections but wanted connectors with easier access.

Solution:**Angled wire entry with levers on top**

“We looked into lever-style terminal blocks and got in touch with Phoenix Contact,” said Zach. “We tried out a couple of different ideas, and ultimately, we stuck with the LPTA lever terminal blocks.”

The Phoenix Contact LPTA 2.5 series has an angled wire entry and fits the same footprint as the original connectors. The levers on the LPTA series are on top, rather than on the side, so they did not bump into the enclosure wall like the earlier connectors did. Phoenix Contact’s solution not only solved design challenges but also cost less than the previous design. (Figure 2)

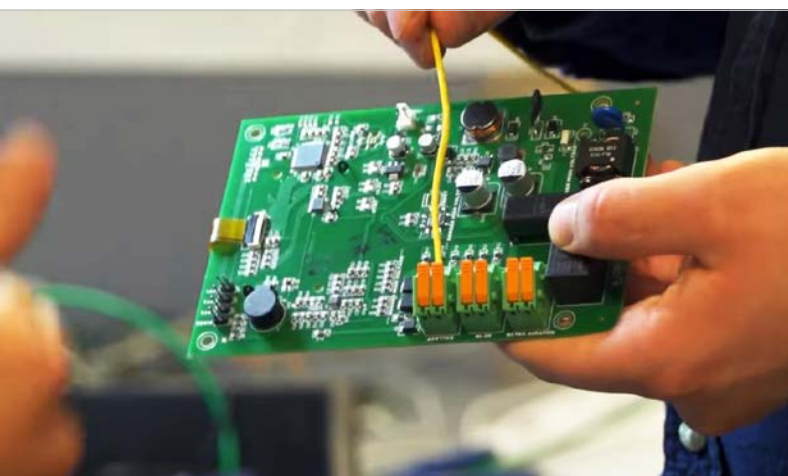


Figure 2: The LPTA 2.5 series offers a tool-free lever connection that simplifies on-site device connections.

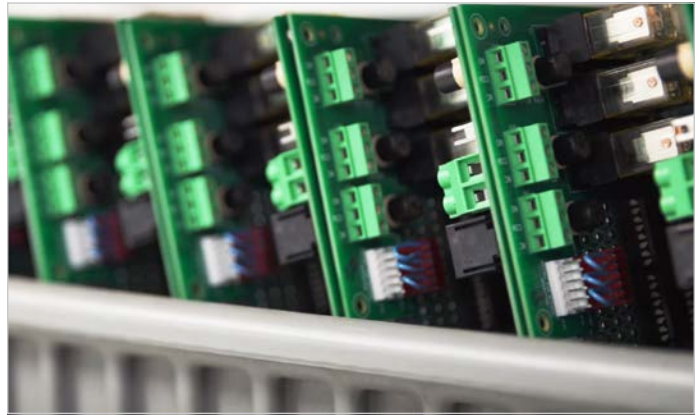


Figure 3: As RLC looks for connector assembly solutions in the future, Phoenix Contact will continue to be a trusted partner.

“The water sterilizer company like that they could come in from a 45-degree angle, right into the board,” Zach said. “It was easily accessible. They could either do a stab in, because some of their connectors and some of their wires are solid. They could also pull the lever back and put in some stranded wire without worrying about ferrules or crimping or anything like that. So they really liked it.”

Results:**Easier wiring and reduced connectivity costs**

With Phoenix Contact products and support, RLC could present a better and less costly solution to their end customer. This helped bolster their position as not only a subcontractor but also a design house and trusted partner. The LPTA 2.5 is much easier to wire when the PCB is already seated into its enclosure. Phoenix Contact also helped reduce connectivity costs by about 30 percent.

Zach said, “Our relationship with Phoenix Contact is a reciprocal relationship. When our customer needs solution, we can reach out to Ben Bailer, our salesperson, and say, ‘Hey, what do you guys have in this line?’ We work with Ben to do the best we can to find something. We can then ask the customer, ‘Hey, is it going to be a fit?’

“If I have a connector issue or question, I can reach out to Ben to talk about the application, and he comes back with possible solutions. In the long term, as Phoenix Contact builds its product line, we’re going to be looking for connector assembly solutions.”