Industry: Automotive

Customer case study

PTFIX to the rescue: Simplified power distribution ensures emergency vehicles are ready when needed

Highlights

- Block Communications needed a better way to distribute power in devices used onboard emergency vehicles.
- The installation space was tight, and wiring was time-consuming.
- With the PTFIX power distribution blocks – small, easy to connect, and color-coded – Block Communications now has faster installation time and easier troubleshooting.

> "It's quicker, it's faster, it's easier to troubleshoot."
>
> **Chad Block, Lead Engineer**

Customer profile

Block Communications, located in Doylestown, Pa., is an automotive repair shop that specializes in custom installations to upfit emergency vehicles.

Challenge: Power distribution in a tight space

Block Communications needed a better way to distribute power and signal lines for devices used on board emergency vehicles. Chad Block, Lead Engineer, explained, "The biggest issue we have in emergency vehicles is space. The vehicles are basically set up like a small office with laptops, printers, and radios, so space is really at a premium. Trying to make all those connections in one location that has a good layout for troubleshooting and things like that down the road just really didn't exist."

Previously, Block Communications relied on custom-made power distribution blocks. Chad explained that this worked fine in the system's original layout, but the design had changed. "So, trying to go back and having the manufacturer redesign was taking a lot of time, and the installation itself was confusing. It wasn't color-coded, so the guys had to follow schematics to make sure they wired it correctly to the vehicle that they're in," he stated.

Solution: Small, color-coded, and versatile distribution blocks

During a visit from Ben Bailer, the local Phoenix Contact electronic sales engineer, Block Communications learned about the PTFIX distribution blocks.

Chad said, "Ben came out and showed us a whole slew of

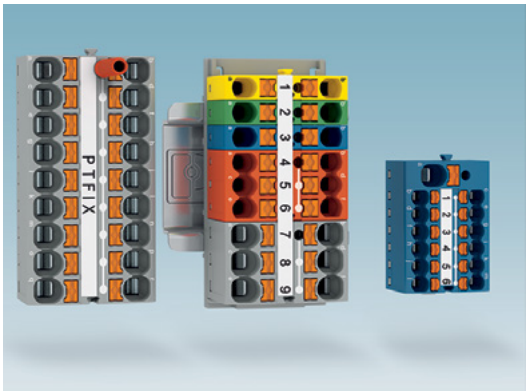

Figure 1: PTFIX distribution blocks are ready to connect, right out of the box.

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Figure 2: Because PTFIX is available in a variety of colors, mounting options, size variants, and more, it simplifies voltage distribution.

different products, and we started pinpointing what we could use. We stumbled upon the PTFIX and ran with it. It worked really well." Ben gave Chad a PTFIX demo board as a sample, so Chad had the chance to get familiar with the product.

The PTFIX blocks are ready to connect, right out of the box. They come in a variety of options, including mounting, number of terminal points, and different sizes, so the series is very flexible. They also feature Phoenix Contact's Push-in Technology, which can reduce installation time up to 80 percent.

"We zeroed in pretty quickly on the PTFIX blocks, just for the number of colors that were available to be able to break everything apart. It seemed to be the right solution," said Chad.

The PTFIX's size was also an asset, according to Chad. "Most of our builds will run anywhere from 50 to 100 connections in a very small area. The PTFIX "is just the right size" for that application. It works extremely well."

Ben explained how PTFIX's size sets it apart. "I think if we tried to come up with a single terminal block slice-by-slice solution, our terminal blocks are a little bit too tall for what Block would have needed. So PTFIX came out right around the right time. It's a neat product. I wish more people used it."

Finally, Chad cited PTFIX's flexibility: "You can design as much as you want. Sometimes you get the project 90, 95% done, and then the customer decides he wants to change something. With the PTFIX blocks, we can actually add an extra one or a few extra. We can just change things around without rewiring. It's so much faster."

When building the final system, Block Communications first mounts an enclosure into the back of the utility vehicle cargo area. The team then builds the DIN rails assemblies on the outside to better streamline production. Finally, when everything is ready to be installed in the car, the technicians move that assembly to the final location and make all the connections.

Terminals and ferrules were new to Block Communications, and they selected the Phoenix Contact CRIMFOX 4-IN-1 to process the wires. "This was our first time using the CRIMPFOX," Chad explained. "We tried an off brand at first. We realized quite quickly that the Phoenix Contact CRIMPFOX was superior, and there's a reason why." He said the comparison between the off brand and the CRIMPFOX "was night and day."

Results: Quick and convenient installation

Chad said that Block Communications has settled on PTFIX for almost all of its builds. He explained, "That's our new standard for any of the cars that we build, and there's been great feedback from everybody that it's quicker, it's faster, and it's easier to troubleshoot if anything is an issue."

"The colors make the difference because the unit color-codes the blocks to the wiring to our controllers. Since the technicians know a certain color equals a certain output, they don't have to look it up. They can just look at the color block and realize that's the wire that it's going to. The size allows us to condense everything into one spot."

Chad said the emergency responders using his vehicles often have long 12-hour shifts. During the winter months, the heat may be running most of that time. The cars may sit in extremely hot and humid weather during the summer, or freezing temperatures during the winter, but the PTFIX has proven its reliability. He concluded, "We've been using them for the past year with zero callbacks, zero failures. So we know that it's working for our application. The convenience really makes a big difference."

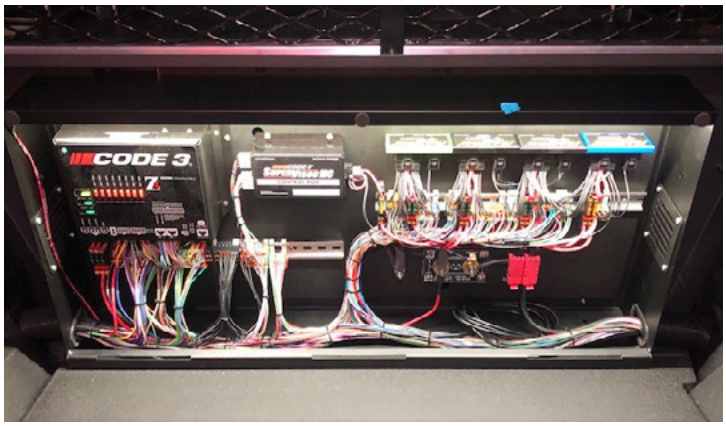

Figure 3: PTFIX is a sleek and user-friendly way to distribute power for lights, radios, and sirens on board emergency vehicles.

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