

The dark secret about “certified” control panels

Manuel Haro, CEO - Accurate Control

Electrical control panels present more than a few safety risks. Shock, fire, equipment damage, and in certain environments explosions, can result from a panel that’s poorly designed or incorrectly matched to the application.

Many panel buyers attempt to mitigate those risks by selecting control panels with the “UL Certified” label, believing they are getting a panel that’s been tested for function and safety in applications like theirs. That, however, is often not the case.

“The dark secret about UL-certified control panels is that it’s usually only the enclosure that is certified,” explains Manuel Haro, CEO and Director of Sales for Accurate Control. “Panel buyers believe they are getting fully UL-listed assemblies, but often they are not. Another misconception is that UL-certified panel shops make only UL-certified panels. Also not true.”

Panel buyers frequently don’t get the level of safety they assume they are buying. This white paper describes certification issues, how they sometimes fall short in protecting panel buyers, and what buyers can do to ensure they are getting all the safety they require.

About UL 508A

UL 508A Standard covers many aspects of control-panel production, notably:

- All panel components are UL recognized and listed. “Recognized” means the components have been approved for specific applications. A control relay, for example, may be recognized for an air conditioner control but not for a motor control.
- The panel complies with UL standards that include such details such as the wire-bending radius inside the panel, interrupting capacity rating, and adherence to national electric codes.
- The panel maker agrees to routine, unannounced inspections to check panels and review related documents to ensure the standards are being consistently followed.

For more information on this standard, see the related white paper, [The 411 on UL 508A – Three ways it guarantees better panels.](#)



Complying with these and other requirements can be an expensive proposition. Little wonder some panel builders choose to disregard them, instead taking advantage of the fact that buyers will not request a fully-certified assembly because they are relying on the UL label that applies only to the panel enclosure and not the entire assembly.

Why not certify?

Customers should beware of discount panels offered with few assurances of safe operation. Although most panel makers are reputable, some simply take a don’t-ask/don’t-tell approach when it comes to customer assumptions about panel certifications. They lower the costs and increase sales by representing the final product as being on par with a more expensive, fully-certified panel.

Verifying the appropriateness of each panel component to ensure it is recognized by UL for the application isn’t a particularly difficult task, but it is time consuming.

Although a component may not be recognized for the intended panel applications, that doesn’t mean it won’t work well. However, its performance and safety in that application haven’t been tested or proven, and that increases the safety risk.

Even conscientious panel buyers who verify that the panel they buy has the UL label can’t be sure the entire assembly

is UL listed. For the most part, the label assures only that the enclosure meets the standard. To determine if, in fact, the entire assembly is UL certified, they have to ask the panel maker. That is what Haro calls, “one of the dirty tricks of the trade.”

Certified panel vs. certified shop

There’s another way panel buyers can be inadvertently deceived about the certification of their panels. They believe when they select a UL-certified panel builder that the panel they buy will be UL listed.

“There is a difference between a certified panel and a panel built by a certified shop,” Haro explains. “A certified shop earned the right to produce certified panels and label them as such, but everything they produce won’t be certified. We manufacture products in our shop with enclosures that have a UL label saying the enclosure is UL listed, but almost 80% of the panels ordered by our customers are not certified. We build them based on UL and NEC Standards, but they are not listed or certified. It’s important that the customer is aware of what they are purchasing.”

Another point of confusion is that, based on the fact that the panel builder is a 508A-certified shop, buyers assume they have broader capabilities. But having one certification doesn’t indicate any capability to produce other electrical products, or even sub-classes of the products they ARE certified to produce.

“It’s like having a driver’s license for a car,” Haro offers. “That doesn’t mean you’re qualified to drive a motorcycle or a commercial truck.”

Shops must be individually certified to each standard. It’s easy to find out if a shop has the required certifications to build panels to any UL standard with an online search using the keywords “UL online certifications directory”. Your results will list all the certifications held by a builder.

The universe of certification bodies

UL standards are widely used and highly respected in the US, but it’s important to keep in mind that Underwriters’ Laboratories is just one of many certifying bodies. For the most up-to-date list of Nationally Recognized Certifying Bodies, visit OSHA’s website at www.osha.gov/dts/otpca/nrtl/nrtllist.html

“People believe the UL mark wraps them in a blanket of total safety,” Haro says. “Other certifying bodies can often be more stringent. There may be other certifications, in addition to UL, that add another layer of safety.”

Panel buyers can do their own research and decide what standard they want to hold their builder to, but are can be constrained by what local code enforcement agencies or authorities having jurisdiction require. If a UL-listed device is required, the panel maker must provide it, even though another certification could be more applicable.

Caveat emptor

In multiple cases, specifying UL-certified panels might not be needed; an uncertified panel will provide satisfactory reliability and safety. Still, Haro believes many panel builders take advantage of customer ignorance regarding standards, and he wants panel buyers to realize there is a real risk, especially in hazardous applications, to not ensuring a panel is UL certified as an assembly.

“Without the certification, you create a greater safety risk,” Haro says. “If you provide a panel not certified for a specific location, for example, there could be loss of life because the wrong equipment was selected. It’s that serious. People don’t realize that by not paying a minimal premium to purchase a certified panel, they put their personnel and facility in danger.”

It falls to the panel buyer to first assess the application risk. Where it’s high and the elevated safety provided by a UL-certified panel is appropriate, the buyer needs to ensure that their panel provider delivers a fully-certified assembly and not just a certified enclosure. Ultimately, it’s all about safety.

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