

# Standardized mounting hardware from industrial automation benefits entertainment control

WE'VE ALL BEEN THERE: putting a control system together from a number of manufacturers' kits, including a pile of circuit boards, rack mount pieces, and about a mile of assorted cable. So here we go, marking and drilling holes in NEMA boxes, or rack panels, or any other flat surface that resembles a good home for the circuit board components, and installing a handful of standoffs to keep things from shorting out. Finally, the moment of truth—the cards are ready to be screwed into their respective new homes. But wait—no matter how precise I thought I was being with all of the mounting and drilling, it never fails that fourth screw just never seems to be in the right place. So here I go, wasting vast amounts of billable time just mounting the gear, when I really . . .

Well those days are slowly disappearing with the migration of a simple, yet elegant technology from the world of industrial automation to the land of entertainment control. The technology is called DIN Rail, a standardized piece of mounting hardware designed to reduce the cost, time, and the frustration of assembling a pile of small devices into a larger cohesive system. DIN rail is not a new invention, but it has only recently been adopted by a few manufacturers in our industry.

The idea behind DIN rail is this: you take a single long bracket (the rail), bolt that into your box, or to whatever substrate you need to mount your devices, and then you clip all of your electronic gadgets to that. The single bracket ensures nice tidy mounting of everything in a line, with very few holes, nuts, and bolts, allowing the installer to focus more on getting the stuff connected than getting the devices mounted to something. This is great deal more efficient,

and the result is typically a lot tidier and more serviceable.

Another advantage to DIN rail is, because of its long history in industrial automation, there are a great number of devices available from outside our industry that are applicable to the things we do. Items such as Ethernet Switches, DC and AC power supplies, a vast array of terminal blocks, and discrete power relays are just a few of the interesting industrial products available in DIN rail mount. This is great, as it opens up a number of possibilities for custom interface and control devices comprised of industrial automation devices, coupled with devices tailored to entertainment. And, since most everything is small and single-purpose, you can end up saving a lot of money in labor, enclosures, and devices.

There are only a couple of things that need to be considered when choosing DIN rail for a project. First of all, the largest variation in the rail comes in the form of the metal used to make it. Choosing the right metal for the job is important, especially in an application where the rail itself is used for grounding the system. Typically it is better to choose rail of the same metal as the box you are installing it into. This will prevent corrosive metal interactions, preserving the grounding bond. Rail is available in stainless steel, steel (zinc plated or galvanized), aluminum, or copper.

Lastly is the profile. There are three standard profiles for DIN rail, and it is necessary to make sure that you select the right rail for the devices you're mounting on it. Some devices will accept different profiles, but it is advisable to consult the manufacturer first to get the correct rail specification. Some profiles are also more common than others, and typically manufacturers will follow the trend when designing devices. The most common shape is TS35 (DIN 46277-2), which is 35mm across and between 7.5mm and 15mm deep.

Due to its simplicity and effectiveness, DIN rail will continue to be adopted throughout our industry. The wide availability of devices and enclosures incorporating DIN rail continues to increase, making it ever easier to design the right system for just about any job, using devices and components from our industry, as well as industry at-large. ■

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