

Choosing One Fuse Panel for Numerous Applications

Lightweight, Versatile Distribution Solutions Fit Traditional and Next-Gen Environments

Versatility is not necessarily a trait that's generally associated with communications network power distribution. Typically, traditional platforms for managing power and protecting network elements are the norm; once standards are set, network engineers tend to stay with established products.

However, the changing topologies of today's network applications frequently alter how power distribution panels are installed, and for that matter, what types of fuse panels or circuit breaker panels are utilized. As network architects deploy more advanced equipment outside of the central office, the associated power distribution must be adjusted to fit the environment. For instance, full-sized rack-mounted GMT fuse panel may not be necessary to simply distribute power to a multiplexer in a remote site application.

Finding a balance between adequate capacity, size and cost is key. In other words, an ideal power distribution solution for many applications is the type of panel that provides ample capabilities at the lowest cost. Adding versatility into that mix is a significant advantage.

Mounting Options

Not every communications equipment installation is built around 23-inch wide equipment racks. In smaller remote sites, enterprise data centers, and various limited-space applications, backboards (see figure 1) and wall space are available — having the ability to utilize this space helps the engineer to make the most of the physical space in the location.

Few fuse panels, however, can be mounted on a wall. Either the panels are too heavy for standard mounting brackets to withstand the weight, or too bulky, creating too much of a protrusion from the

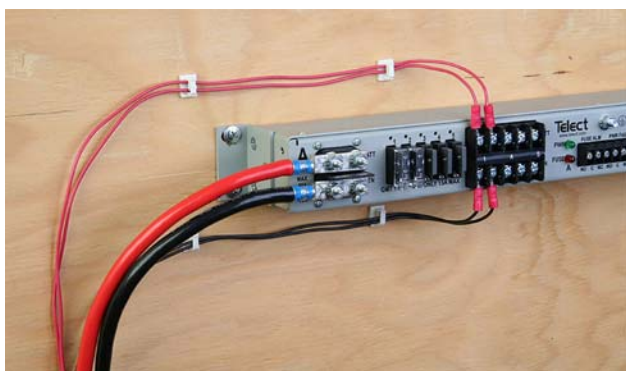


Fig. 1: Telect wall-mounted GMT fuse panel (part # GMT05FA). Note the minimal extension of the panel from the wall.



Fig. 2: Telect front access GMT fuse panel (part # GMT05FA). All inputs, outputs and fuse connections are easily accessible on the front of the panel. In this example, the mounting brackets are oriented for standard mounting in an equipment rack.

wall. And, obviously, if any input or output connections are on the rear of the panel, wall mounting is simply not an option (see drawings on page 2).

However, a wall-mount option not only potentially frees up space in the equipment rack, it also provides the user with the opportunity to deploy power distribution in different locations. Possibilities include inside an equipment cabinet or on the cabinet door, in addition to walls and/or backboards.

Sample Applications

A couple of sample applications demonstrate how versatility in panel design is a key advantage.

As part of a configured system, a service provider paired an optical multiplexer with a wall-mount GMT fuse panel dedicated specifically to managing power for the MUX. Choosing a compact, wall-mount fuse panel allowed the user to deploy the system in virtually any field application, since both the MUX and the fuse panel can be mounted to a wall, inside a cabinet, or elsewhere.

In other cases, a panel with minimal depth enabled unique usage in standard rack-mount environments. For example, these fuse panels can be mounted mid-rack in space traditionally dedicated for cooling or airflow, since, if mounted properly, the fuse panel will essentially have no impact on the airflow space. Users can position the mounting brackets so that the fuse panel only occupies space in front of the rack; if additional power distribution is required for LEDs or other low-current components in the rack, it can be accomplished without impacting overall “usable” rack space.

Key Features to Target

Numerous front access fuse panels are available, so what are the key features that set the best solutions apart from the others? For standard low-current GMT fuse distribution, consider these:

- Universal operating voltage: This is a key fea-

ture in today's communications world. No longer are all networks operating in the traditional -48V of telecommunications. Wireless networks, enterprise applications, and other systems function at -24V or +24V as well. Choosing a single standard panel that seamlessly functions at any of these voltages provides significant versatility while greatly simplifying the purchasing process.

- **Ample airflow:** Cooling is a priority in most applications, where equipment will not function properly at too high a temperature. Look for a fuse panel designed to minimize impact on airflow space; in other words, a compact footprint will not impede airflow in the overall environment.
- **Low overall weight:** Typical GMT fuse panels can range up to 10 pounds or more in weight when fully configured and installed. Unless the wall mounting brackets are exceedingly robust, they may not be able to handle the weight of a traditional panel. Lighter weight panels, engineered specifically for wall mounting, are a better option.
- **Shallow panel depth:** If a fuse panel extends too far from a wall or backboard, wall mounting is not a realistic option. Most panels range from eight to 10 inches in depth; solutions engineered for wall mounting, however, can measure as little as two inches in depth.
- **Sufficient capacity:** Taking the above factors into consideration, the panel still will not be a good choice unless it can handle the power requirements of the application. Panels with 15A GMT fuses not only accommodate traditional low-current distribution, they also can handle some of today's active equipment (i.e., multiplexers, routers, etc.). A 50A input rating is typically sufficient for the types of applications where these panels fit.

- **Simplicity:** Most fuse panels are simple to install and maintain. However, choosing a panel that is simple to install and deploy in a variety of environments is a significant advantage. For example, the fuse panel pictured in figure 3 can be mounted in a rack or on a wall simply by rotating the mounting brackets.

The Bottom Line

Standardizing on a single product that fits multiple applications provides several basic advantages, ranging from minimizing the amount of field training required to streamlining the actual purchasing process. However, for this to be successful, the product must truly fit those multiple applications effectively. Targeting the features listed above and selecting a reliable supplier are key steps in this process.

GMT05FA Mounting Options

