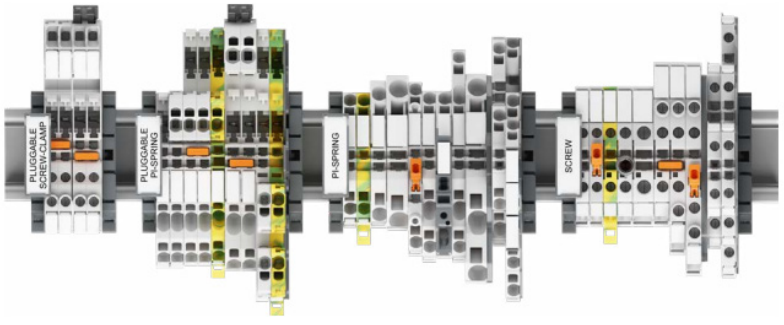
Electronic Design

LOU FRENZEL, Contributing Editor

Innovative Connectors Ease Wiring Woes in Complex Systems

Sponsored by Digi-Key and TE Connectivity: A unique terminal-block assembly solution offers a range of interconnect options that could reduce mounting time by up to 90%.

If you have ever designed, built, and otherwise worked with large and complex systems, you know the challenge of wiring that equipment. Wiring harnesses, connector panels, difficult access, and labeling for service and maintenance later in the process make the design difficult. Well, a solution that you may not have heard of could tamp down those headaches.



TE Connectivity's ENTRELEC SNK connector system is unique but effective for complex systems in hazardous environments.

Connectors are a necessary part of most electronic products today. As a designer, you probably know there are hundreds, maybe even thousands of options. When building larger and more complex products or systems, you often need some special or custom connectors to get control of what can be a nightmare of wiring and interconnections. If you're currently working on a design and haven't figured out how to get everything connected, perhaps you should take a look TE Connectivity's ENTRELEC SNK series of terminal blocks.

Versatile Wiring Solution

The *figure* shows a photo of an ENTRELEC SNK series terminal-block assembly. This unique format provides a wide range of interconnect options. You literally build it yourself to fit your product and application. And with the connection options available, you could end up with a connector solution that can expedite your project with up to a 90% reduction in mounting time and higher overall productivity.

Your ENTRELEC wiring and cabling starts with a DIN rail to which you attach the number of terminal blocks needed to accomplish your wiring. The terminal blocks—thin color segments—are attached to the rail in the order that you determine. A wide variety of terminal blocks are provided to handle just about any wiring scenario.

Three types of solderless connections are used in the terminal blocks. The Push-In (PI)-Spring type uses a strong conductive clip that clamps the wire to the strong contact base. The wire is inserted and removed with the aid of a screwdriver.

The screw connector clamps the wire inside a hardened metal frame. The pluggable technology connector uses a pair of spring clips to hold the wire. These mechanical connections are solid and make initial connections fast and easy.

The ease of making the initial connection and even changing it later facilitates any troubleshooting and modifications that may needed. Multiple connector sizes accommodate virtually any wire size being used. The blocks are rated for voltage levels up to 1500 V.

The individual terminal blocks are put together end-to-end on the DIN rail. A variety of terminal blocks can be selected depending on your wiring needs. Ground connector blocks,

feedthroughs, separator blocks, and end caps customize your connections. Then there are the plug-ins. These include jumpers between blocks and measurement and test plugs. Connectors for holding fuses or other small components like diodes, resistors, or capacitors give you further capability in a neat, self-contained way.

These terminal blocks come in a wide range of widths from 4 to 10 mm and multiple colors so you can visually code your wiring. A truly valuable feature of this connector system is the labeling capability. Labels can be made to mark all connections in an integrated way. Neat and highly visible labels make work easier during construction and maintenance.

Other Key Features

Some other factors to consider about the ENTRELEC SNK connection system include:

- Qualified for worldwide applications and harsh environments like factories, buildings, solar installations, trains, and marine.
- The ergonomic design allows you to optimize your logistics with eased panel manufacturing, common accessories, and fewer part numbers, leading to significant productivity savings.
- Ease and speed of connections. Saves time in making the connections initially, changing them as needed, and making tests for troubleshooting.

If you're dissatisfied and fed up with your current wiring and connecting methods, take a look the ENTRELEC SNK system. It's clearly innovative and provides a compact, rugged, and reliable way to make the connections in your product. If you're starting a new design, you may want to acquire samples of these products to see how they may fit. Check with your distributor for what may constitute an initial sampling to help you decide on the right approach.