

Thinking connectors, think early



Aerco connector specialist, Alec Sluce

With 30 years' experience, Aerco connector specialist, Alec Sluce, guides readers through connector purchasing, emphasising the importance of considering connectors early

What are the secrets to connector purchasing success?

Connectors are often considered too late in the design process. When working on projects, it is common to specify the power and cable requirements first. The cable is often installed first and the connector selected after. This is the first stumbling block often regarding PCB space or cable harness weight. Insufficient space for the correct connector can lead to sourcing problems, using an inferior product or a more costly alternative.

Sealing requirements must also be considered. Does it need protection from moisture or dust? Are there any other environmental conditions to consider, like heat or pressure?

If so, the connector may need an environmental backshell or other protection, again causing issues if there are space constraints.

Not ordering with sufficient time is another common mistake. Ordering late can mean longer lead times which delay projects. Buyers are more likely to make a bad decision if they are rushed, potentially leading to inferior products or connectors that can't be swapped out, leading to future maintenance headaches.

To counter these problems, consider connectors early in the design process so that space, size and environmental issues are given full consideration. Then allocate the time to source the right products making sure there is a ready supply or easily obtainable stock.

Are all connectors equal? If not, what are the options?

Connectors come in all shapes and sizes with major differentiators including coupling style: threaded, bayonet, push-pull or snap. They also come in a selection of materials, finishes and plating.

Choosing the right connector is not easy given there are thousands of options and configurations to choose from. There will be options for most applications but the hard part is finding that perfect match.

The key to connector selection is speaking to an expert early. Once power, space and environmental needs are confirmed, the process of narrowing down selection can begin.



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Aerco likes to get involved at the design stage, engaging with customers and helping them through the selection process and on to recommended products from top tier manufacturers including TE Connectivity, Smiths Interconnect and ITT Cannon.

What are the primary connector certifications and standards?

Many different standards and certifications apply to connectors. Connectors manufactured in the US should have UL approval, with CE being the European equivalent. These represent the basic requirement for a connector in an industrial setting. IP ratings are essential for connectors which require environmental protection.

Specific sectors and industries require their own approval such as EN 45545 which is used by Network Rail to ensure the safety of electrical equipment on trains and tracks.

Connectors in defence applications also require specialised certification and these represent some of the toughest



testing and approvals available, meaning connectors with defence approvals are highly sought after. This includes Mil-Spec and VG approvals.

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