

Micro Circular Connectors for Miniaturization of Medical Instruments

“Omnetics stocks high reliability connector inserts for fast design of medical-grade cables”

Diagnostic and monitoring devices, electronic catheters, probes, miniature camera systems, and patient-worn systems all demand increased portability and reduced size and weight. Off-the-shelf micro circular connector inserts are often used by medical electronic instrument designers. This promotes rapid assembly of physical prototypes and saves time and money. Design and details are available on Omnetics Connector website at <http://www.omnetics.com>

These connectors and cables have been specifically designed to meet the demands for ruggedness and reliability of portable instruments. By offering miniature connector systems small enough to be potted or molded into instrument handles, probes, and tools, the designer can keep focus on the form and function of their equipment. The high density of the connector quite often allows for a reduction in overall device size. Other uses include cables that connect key equipment in the physician’s office or hospital room to computers or monitors outside of the patient area.



Omnetics offers several sizes of pre-molded circular connector insulators that are immediately available. Standard connector pin-counts, offer a number of termination choices. Solder cups, pre-wired, and thru-hole designs are all stocked to assist in rapid completion of early assemblies for testing. The connectors have proven reliability based upon being built with elements and materials that have passed very severe tests required of military and aerospace industries.

Cable design assistance and selection is a key part of what Omnetics offers. It is often important to target minimum diameter cables with maximum flexibility to improve equipment ease of use and patient comfort. When higher speed video is required, special twisted-pair or high definition cables are used. Materials qualified for medical use are specified to prevent bacteria growth and ensure that the connection system withstands sterilization or disinfection methods to be used on the medical device. Finished medical product designs often include over-molding of the connector and cable into a hand-held assembly, a panel interface or a docking station. For a quick visualization of an over-mold concept design or the final assembly, Omnetics uses web conferences and three-dimensional models that are shared with the designer on-line.

Circular connector formats and details of over-molding and cables are available on the Omnetics Connector web site at <http://www.omnetics.com>

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