

# Patient Connect AN-108

SL Power Application Note





Condor's Medical Power Supplies are not intended to be used in applications that allow the output of the power supply to be connected to Patient Circuits; that is, applied directly to the patient. Therefore, no attempt was made to meet the requirements of the IEC 601-1 standard in regard to Applied Parts. The supplies do not meet creepage and clearance from secondary circuits to earth or patient leakage current requirements for Patient Circuits and Applied Parts. While the outputs of the supplies are floating, they are capacitively coupled to earth for the purpose of EMI suppression.

The supplies can be used in equipment with Patient Circuits and Applied Parts if additional isolation between the output of the supply and the Patient Circuits is provided by the OEM.

One method of providing this isolation is the use of a medical type DC-to-DC converter. The converter's characteristics should include isolation voltage of 2500 Vac minimum and very low input-to-output / output-to-earth capacitance.

Another common method used when there is an applied part with no direct electrical connection relies on an insulating barrier between the electrical circuit and the patient. The barrier must be acceptable for the application by providing adequate dielectric strength (2500 V rms minimum), robustness, and thickness (0.4mm minimum). The method for testing the barrier for dielectric strength and leakage current is to wrap the applied part with aluminum foil. The tests are made from the foil to ac input and/or earth. If the applied part is sealed, it may be immersed in a saline solution and the test performed from a probe in the solution to input and/or earth.



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