GlobTek, Inc.
“your power partner”

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ISO 9001:2008
ISO 13485:2003
ISO14001:2004

Medical-Grade power adapters used for “Floating Output” type F applications

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In order to control medical equipment design and development costs and time budget, use of a high quality medical grade power adapter, is generally a must. The resulting saving will bring the product to market faster and allow the engineering teams, to concentrate on the core product, and regulatory aspects of the core product.

When the patient must be protected from electrical contact with the medical device, the usage environment may be classified as BF or CF per IEC 60601-1. With a floating output application, there are two ways to attain the floating status in the power distribution as follows:

A. Use conventional medical grade power supply, and follow with a second DC-DC converter stage, or
B. Use a BF or CF characterized medical-grade power supply

Globtek specializes in the latter approach, as it is seen to be the most cost effective, and most “Green” approach in general.

Medical application classification *(re power source)* may be broken down as follows:

i. Clinical use, Class I input, BF
ii. Clinical use, Class II input, BF
iii. Clinical use, Class I input, CF
iv. Clinical use, Class II input, CF
v. Home use, Class II input, BF
vi. Home use, Class II input, CF

Each of the above 6 categories requires a specific power supply design and testing strategy, to meet desired output patient leakage current level or 100uA (BF) or 10uA (CF), and also be compliant to the Class B EMI emissions levels required of the medical device.

With the mandatory requirement of the home use medical electrical device standard IEC 60601-11, came two mandatory requirements which differ somewhat from the base standard IEC 60601-1. The two specific requirements are:

a. Class I input not allowed, due to poor reliability of earthing connection in home-use environment. Only Class II input config allowed.
b. Minimum Ingress Protection requirement of IP22 or IP21 depending upon the location of use. If used in a transport mode (car or ambulance) then IP22 is minimum requirement.

While the 100uA (BF) leakage current requirement, for Class II input is not particularly challenging, for the power supply engineer, meeting the 10uA (CF) leakage current requirement can be difficult.

Globtek is now offering availability of CF isolation category Class II input power supplies, compliant to the home-use medical standard, with less than 5 uA leakage current. This new power supply line is tagged the “Sigma Wave Technology” product family. Model GTM96250-25VV-R2 has a maximum power level of 25W

“Sigma Wave Technology” product family. Model GTM96280-20W-R2 has a maximum power level of 20W output, and is available from 5Vdc to 48Vdc output voltage range, with a standard input voltage range of 90-264Vac, 50/60Hz. Model information can be found on our website at **http://en.globtek.com/datasheet/id/a0Oa000000FjEyL**

Please contact the Sales department at Globtek, for a quotation for your specific application.

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