

# **FOCUS ON MEDICAL POWER SUPPLIES**

Designing and producing a wide range of medical power supplies since 1986





# Why RGM?

#### **Custom PSUs exceeding the standards**

- Small, light, reliable, efficient
- Multi-voltage outputs
- Out-of-standard performances
- Tailored mechanical layout
- Tailored mechanical layout
- Advanced cooling management

#### System integration capabilities

- Battery management (including Li-Based)
- Motion control (i.e. servomotors)
- High Level Assembly
- Power supplies architectures
- Advanced I/O communication and control









## **Our Commitment**

IEC 60601-1 (III ED.), CL1 – CL2 UL 60601-1 (III ED.), CL1 – CL2

We are aware of the great importance of the power supply in our customers' devices. The mission critical nature of medical devices demands high quality, reliable, safe and cost- effective products to face a strongly regulated market and an intense competitive environment.

This is why each product is

- Designed in close partnership with the customer
- Manufactured in world-class manufacturing facilities
- 100% functionally inspected





## **Modular flexible platform concept**



- Mains Filtering
- Pfc
- Safety Standards





- Timing / Sequences
- Monitoring
- Battery Back-up
- Protections
- In/Out Signals
- Electrical Interfaces





**ATX LOADS** 







## **Device Applications**













#### 360 W PSU Class II – type BF applications



- 88 ÷ 264 VAC Universal Input
- Dual output voltage
- 24 VDC @ 15A;
- 5 VDC @ 1A;
- Meets EN 60601-1 (III ed.) , class II, BF
- Suitable for B & BF rated equipment



#### Monitoring



"Suitable for therapy systems, patient heating and cooling equipment, incubators, ultrasound monitoring, cardiac monitoring, long-term diagnostic equipment and blood pressure monitoring





#### **150 W Modular PSU and/or Battery Charger** For surgical lights

- 88 ÷ 264 VAC Universal Input
- + 24VAC Input
- +24 VDC Input
- 28VDC output
- Modular & parallelable unit
- CAN bus
- 3rd edition 60601



"A modular system for adapting true, authentic and reliable lighting to surgeons' needs"





## 250 W PSU Hematology analyzer

- 88 ÷ 264 VAC Universal Input
- No. of DC Output voltages : 6
- Special chassis to support device heat management
- cTUVus approved UL 61010-1:2012







"The heart of leading hematology analyzer, providing rapid and consistent results





#### **300 W PSU + chassis Clinical diagnostic**

- 88 ÷ 264 VAC Universal Input
- No. of DC Output voltages : 5
- Special chassis to support device heat management
- cCSAus approved UL 61010-1:2012
- All-in-one-shop
  Provided with mechanical enclosures & specific wirings









#### 360 W PSU Innovative fuel cell portable breathing machine

- 88 ÷ 264 VAC Universal Input
- Dual output voltages
- Adjustable 3,5-12VDC@25A for fuel cell H20 > O2
- 12VDC@5A for housekeeping management





Fully withstanding customer expectations for a compact and reliable power solution





#### 430 W PSU Two module Ultrasound Scanner

- 88 ÷ 264 VAC Universal Input
- 7 low VDC output
- 2 high VDC adjustable output
- cCSAus approved



Two units to generate the low voltages but with high current ratings close to the consumer and to provide filters and linear regulations for low-noise supply voltages for the analog section of the front end

Imaging







#### 480 W Power Unit Clinical Hemodialysis System

- 88 ÷ 264 VAC Universal Input
- No. of DC Output voltages : 7
- 2 with additional insulation
- Built-in self powered Alarm Buzzer
- extensive I/O interface
- Battery back-up full management
- EN 60601-1 (III ed.)



Dialysis







#### 530 W Power Unit Chronical haemodialysis system

- 88 ÷ 264 VAC Universal Input
- No. of DC Output voltages : 7
- 2 with additional insulation
- 98db self powered alarm Buzzer 1 min. function
- extensive I/O interface
- Battery back-up full management
- Full backward compatibility with previous series
- Increased performances vs previous series
- EN 60601-1 (III ed.)2 MOPP



-30% size

-20% weight

+ 5,5% efficiency





## 600 W PSU Immunoanalyzer

- 88 ÷ 264 VAC Universal Input
- Dual DC Output voltages
- Temperature controlled fan speed
- cCSAus approved UL 61010-1:2012



#### Diagnostic



Powering the last generation providing more efficiency, reliability in reduced dimensions





#### 650 W Power Unit Renal intensive care machine

- 88 ÷ 264 VAC Universal Input
- 12/24 VDC Battery Input
- No. of DC Output voltages : 6
- Battery back-up full management
- Built-in self-powered Alarm Buzzer
- cTUVus EN 60601-1 (III ed.)
- 2 MOPP





Powering the best in class in blood purification therapies in the hospital setting





#### 665 W PSU Laboratory analyzer

- 88 ÷ 264 VAC Universal Input
- No. of DC Output voltages : 9
- 10 mV ripple on analog outputs
- EN 61010-1 III ed.
- Double independent current protection





Diagnostic







#### 750 W Power Unit Clinical Hemodialysis System

- 88 ÷ 264 VAC Universal Input
- No. of DC Output voltages : 3
- 24 VDC/7Ah Pb battery back-up
- Built-in customer interface board
- Battery back-up full management
- Auto Self-test capability







#### 800 W | 7500 W peak Capacitor Charger and Diode Laser Drive Medical / Aesthetic devices

- 88 ÷ 264 VAC Universal Input
- 800 J/s charger
- 50V/150 A laser diode stack driver
- 50 msec/50 V/150 A; 70 msec/50 V/ 130 A
- Pulse repetition rate: up to 5 Hz
- IEC 60601-1 (III ed.)



Providing unequaled performance in a variety of device configurations





#### 580 W + 300 VA Power Unit Ultrasound scanner

- 88 ÷ 264 VAC Universal Input
- No. of DC Output voltages : 15
- 4 medical grade insulated AC outlets
- I2C bus interface
- Oversized fans to perform device heat management
- EN 60601-1 (II ed.) cULus approved





All-in-one-shop - Integrating all of the scanner power needs in one box





#### 850 W + 450 VA Power System Ultrasound Scanner

- Input 110 / 220 VAC
- No. of DC Output voltages : 7
- 2 high VDC adjustable outputs
- 4 medical grade insulated AC outlets
- I2C bus interface



Imaging







#### 1500 VA AC/AC module **Ultrasound Scanner**

- 88 ÷ 264 VAC Universal Input
- 1.500 VA RGM medical insulation transformer
- OEM manufactured





Powering one of the most widely known ultrasound machines in the OB/GYN field

RCM



## And many more...







# COMPETENT DESIGN

PROFESSIONAL MANUFACTURING

LIFE TIME SERVICE



PARTNER OF LEADERS

## **CUSTOM POWER SUPPLIES & CONVERSION SYSTEMS**

# Thank you for your attention

RGM S.p.A.

Via Buccari 19/21, 16153 Genova

www.rgm.it

