

# Technical Data Sheet - preliminary

## CAR100M Car/Truck Power Adapter



### 100 Watt medical grade automobile power adapter

#### Features:

- Wide input voltage range
- Max. output power 110 Watt
- Galvanic isolation for maximum patient safety
- Car / Truck input connector
- Wall-mount kit optional

#### Applications:

- Suitable for use with all mobile medical devices (e.g. respirator, defibrillator, suction pump, etc.)

### Specification

Input	
Voltage range	10 - 32VDC
Standby current	Typical 45mA @ 10V input Typical 35mA @ 32V input
Input fuse	13A
Protection	Reverse polarity Over voltage protection (Transient suppression circuit)

Output	
Voltage range	16 - 24V nominal
Power	100W cont.
Initial set tolerance	±3% max.
Load regulation <sup>(1)</sup>	-4% max.
Line regulation	±1% max.
Ripple & noise <sup>(2)</sup>	< 120mV <sub>pk-pk</sub>
Current limit	Constant current
Protection	Short circuit Over temperature protection Over voltage protection

Environmental	
Cooling	Convection cooled
Temperature	Operating: -20°C to 40°C 40°C to 50°C, derating 35% Non-operating -40°C to 75°C
Pressure & altitude	Operating: 1200hPa to 570hPa, max. 4600m above sea level Non-operating: 1200hPa to 115hPa, max. 15000m above sea level
Humidity	5 to 95% r.H., non-condensing

General	
Galvanic isolation	Isolation voltage 2kV
Input connector	Cigarette lighter adapter
Output connector	Customer-specific
Efficiency <sup>(3)</sup>	typical 88% at 100% load
MTBF	> 100000h @ 25°C ambient temperature and G <sub>B</sub> per MIL-HDBK217F
Green procurement	WEEE RoHS
Indicator	Single green LED
Ingress protection rating	IEC60529, IP42

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### Safety & EMC

Regulatory approvals	Europe International USA/Canada Australia	CE CB Report IEC 60601-1 3 <sup>rd</sup> edition UL60601-1 RCM
Electromagnetic emissions	Europe USA Medical electrical equipment Airborne equipment	EN 55011/55022 class B FCC15 class B IEC60601-1-2 RTCA/DO-160F, Section 21
Electromagnetic immunity	ESD immunity Electromagnetic field immunity Electrical fast transient/burst immunity test Surge immunity test Conducted Immunity Airborne equipment  ISO-Impulses Medical electrical equipment UNECE vehicle regulation	IEC61000-4-2, 8kV contact/15kV air IEC61000-4-3, 80-2700MHz, 30V/m, modulation 80%/200Hz IEC61000-4-4, +/-2kV, 5/50ns  IEC61000-4-5, +/-0.5kVsym, 1.2/50(8/20) $\mu$ s IEC61000-4-6, 0.15-80MHz, 10V, 80%, 1KHz, AM, with CDN RTCA/DO-160F Sections 16.6-17-18-19.3.1-20-25 ISO7637-2, pulse 1 till 5, immunity test level III IEC60601-1-2 E13 ECE Reg. 10

- other approvals on request

### Mechanical Details

Housing dimensions (LxWxH)	165 x 64 x 38mm, without cables and connectors
Input cable length	240cm $\pm$ 5%
Output cable length	100cm $\pm$ 5%
Weight	approx. 420g, without cables, connectors and wall-mount kit

### Notes

1. Load regulation is measured at the output connector and includes the voltage drop across the output cable.
2. Measured with a 0.1 $\mu$ F ceramic and a 10 $\mu$ F electrolytic capacitors across the output terminals. The oscilloscope bandwidth is set at 20MHz a co-axial cable will be used to measure it. The test condition is maximum load.
3. Power losses of input and output cables are not considered here.

Germany/Headquarters	USA	Hong Kong	China
RRC power solutions GmbH Technologiepark 1 D-66424 Homburg / Saar	RRC power solutions Inc. 18340 Yorba Linda Blvd., Suite 107-437 Yorba Linda, CA 92886-4104	RRC power solutions Ltd. S-V,6/F, Valiant Industrial Centre 2-12 Au Pui Wan Street Fo Tan, N.T., Hong Kong	RRC power solutions Ltd. Room 520, Yuanlin Building, Aiguo Road No. 3066, Luohu District, Shenzhen 518021
Tel.: +49 6841 98090 Fax: +49 6841 9809280 Email: sales@rrc-ps.de Web: www.rrc-ps.de	Tel.: +1 714 777 3604 Fax: +1 714 777 3658 Email: usa@rrc-ps.com Web: www.rrc-ps.com	Tel.: +852 2376 0106 Fax: +852 2375 0107 Email: hkrrc@rrc-ps.cn Web: www.rrc-ps.com	Tel.: +86 755 8374 1908 Fax: +86 755 8374 1861 Email: hkrrc@rrc-ps.cn Web: www.rrc-ps.com