

# Technical Data Sheet

## CAR90U Car/Truck Power Adapter



### 90 Watt automobile power adapter

#### Features:

- Wide input voltage range
- Ultra compact and lightweight car adapter
- 90 Watt continuous output power
- All output voltages and currents can be configured via the multiple connector system (MCS)
- Worldwide approvals
- High safety standards (e. g. protection against short circuit, over current, over voltage, over temperature)
- For use in cars and trucks

#### Applications:

- Suitable for portable mobile devices

### Specification

Input	
Voltage range	11 - 32VDC
Switch off voltage	10VDC
Standby current	Typical 40mA @ 11V input Typical 80mA @ 32V input
Input fuse	12A (in CLP)
Protection	Reverse polarity (input fuse CLP) Under voltage protection Over temperature protection (latch-off reset)

Output	
Voltage range	5 - 24VDC nominal
Power	90W continuous
Initial set tolerance	±3% max.
Load regulation <sup>(1)</sup>	- 80mV max. / A
Line regulation	±1% max.
Ripple & noise <sup>(2)</sup>	< 200mV <sub>pk-pk</sub>
Current limit	Constant current, 6A max.
Protection	Short circuit Over current protection (current limitation) Over voltage protection (latch-off reset) Over temperature protection (latch-off reset)

Environmental	
Cooling	Convection cooled
Temperature	Operating: -20°C to 40°C Non-operating: -40°C to 85°C
Pressure & altitude	Operating: 1200hPa to 795hPa, max. 2000m above sea level Non-operating: 1200hPa to 115hPa, max. 15000m above sea level
Humidity	5 to 95% r.H., non-condensing

General	
Input connector	Cigarette lighter adapter (CLP)
Output connector	Customer-specific with multiple connector system
Efficiency <sup>(3)</sup>	typical 96% at 100% load
MTBF	>20000h @ 25°C ambient temperature and G <sub>B</sub> per MIL-HDBK217F
Green procurement	WEEE RoHS
Indicator green LED	On: Power on Flashing: Failure Off: Power off
Ingress protection rating	IEC60529, IP40

# Technical Data Sheet

## CAR90U Car/Truck Power Adapter



Safety & EMC		
Regulatory approvals	Europe International USA/Canada Australia	CE CB Report IEC60950-1 cULus UL60950-1 RCM
Electromagnetic emissions	Europe USA	EN55022 class B, EN55024 FCC15 class B
Electromagnetic immunity	ESD immunity  Electromagnetic field immunity Electrical fast transient/burst immunity test ISO-Impulses UNECE vehicle regulation	IEC61000-4-2, 4kV contact / 8kV air  IEC61000-4-3, 80-2700MHz, 3V/m, AM 80%/1kHz IEC61000-4-4, +/-1kV, 5/50ns  ISO7637-2, pulses 1, 2a, 2b, 3a, 3b, 4 E13 ECE Reg. 10

### - other approvals on request

Mechanical Details	
Housing dimensions (LxWxH)	115 x 53.7 x 21.5mm, without cables and connectors
Input cable length	100cm ±5%
Output cable length	100cm ±5%
Weight	250g, without cables and connectors

### Notes

1. Load regulation is measured at the output connector and includes the voltage drop across the output cable.
2. Measured with a 0.1µF ceramic and a 10µF 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