

Technical Data Sheet

CAR90UUSB Car/Truck Power Adapter



90 Watt automobile power adapter

Features:

- Wide input voltage range
- Available USB charging port
- 90 Watt continuous output power (85W main-output + 5W USB-output)
- Ultra compact and lightweight car adapter
- 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 or mobile devices
- Simultaneous power for a mobile computing and works with e. g. a laptop and USB compatible device

Specification

Input	
Voltage range	11 - 32VDC +1%/-3%
Switch off voltage	10VDC
Standby current	typical 40mA @ 11V input typical 80mA @ 32V input
Input fuse	12A (in CLP)
Protection	Reverse polarity (input fuse in CLP) Under voltage protection Over temperature protection (latch-off reset)

Output	
Output 1 (main)	
Voltage range	10 - 24VDC nominal
Power	85W continuous
Initial set tolerance	±3% max.
Load regulation ⁽¹⁾	- 80mV max. / A
Line regulation	±1% max.
Ripple & noise ⁽²⁾	< 200mV _{pk-pk}
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)
Output 2 (USB)	
Voltage	5VDC nominal
Current / Power	1A max. / 5W max.
Total tolerance ⁽³⁾	±5% max.
Protection	Short circuit Over current protection

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.

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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 (output 1)	Customer-specific with multiple connector system
Output connector (output 2)	USB receptacle, Type A
Efficiency ⁽³⁾	typical 96% at 100% load
MTBF	>20000h @ 25°C ambient temperature and G _B per MIL-HDBK217F
Green procurement	WEEE RoHS
Indicator green LED	On: Flashing: Off: Power Failure Power on off
Ingress protection rating	IEC60529, IP40

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

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