Power Supply

IDDV-6304140A

140 W DC/DC Smart ATX Converter Module for Vehicle





Dedicated ATX Power for Car PC and Battery Powered Applications

Designed to provide power and to control the on/off switch of a motherboard based on the ignition status.

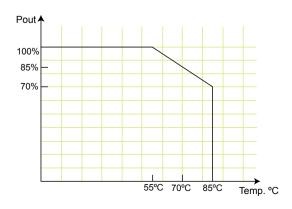
Dimensions (Millimeters)

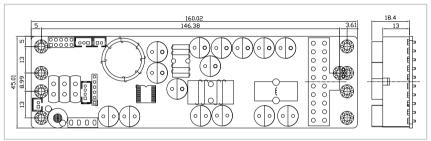


- 1. Wide input range: 6-30 VDC
- 2. Smart system on/off control
- 3. 6 selectable power on/off timing modes
- 4. Load down protection
- 5. Over voltage protection
- 6. Short circuit protection
- 7. Over current protection
- 8. Battery voltage monitor
- 9. Amplifier on-delay control
- 10. RoHS compliant
- 11. Compact size
- 12. IrDA remote control off (options)

Specifications

- Output (max.): 5 V@10 A, 3.3 V@10 A, 12 V@4 A, -12 V@0.15 A & 5 VSB@1.5 A
- Max. total output: 140 W
- Input: 6 VDC to 30 VDC Min. input operating voltage: 5.7 V Max. input operating voltage: 30 V
- Deep-discharge shut down voltage: 10.6 V
- Startup voltage: 8 V
- Efficiency: up to 90%
- Dimensions: 45 mm X 160 mm
- Weight: NW: 118 g
- Operating temperature: -20°C ~ 85°C
- Storage temperature: -40°C ~ 125°C





Pin Assignments

Input Power Connector

	CN15	Batt (+)
	CN16	ACC ON
	CN17	Batt (-)
- 1		

Output Power Connector

J1 Standard 20-pin ATX

Wire Harness Selection Guide

SBC Main Power (J1)



PN: CB-ATX20PIO-RS 20-pin ATX to 20-pin ATX / SATA / HDD cables

Input Power Connector (CN15, 16, 17)



PN: CB-BATACC-RS Wire to battery and ACC on

Packing Information

1 x IDDV-6304140A

1 x QIG

1 x Wire cable for PWR/SW AND MB/SW (P/N: 32100-153400-RS)

1 x Wire cable for LED /AMP (P/N: 32100-153500-RS)

Ordering Information

Part No.	Description
IDDV-6304140A-R10	140 W DC/DC 6-30 VDC input; vehicle converter module
CB-ATX20PIO-RS	30 cm, 20-pin ATX to 20-pin ATX / SATA (20 cm) / HDD cables
CB-BATACC-RS	30 cm, wire to battery and ACC on

Power Supply

PCs Still Consume Power While OFF

A typical PC consumes 500mW of power when the system is powered off. The current computer market trend demands more and more standby power.



How the IDDV-6304140A work to keep your battery alive.

Step1. Ignition=Off

IDDV-6304140A cuts off all the power rails including 5VSB, internal μP power consumption keep less than 1.5mW.

Step2. Ignition=On (ACC On)

The IDDV-6304140A waits for 10 seconds then turns on the 5VSB rail.

Auto On(jumper selectable) - After 1 sec. The μ P sends an "ON" signal to the motherboard via the 2 wires connected to the motherboard's on/off pins.

Manual On(jumper selectable) - Nothing happens until the power button on the IDDV-6304140A is pushed.

Step3, Ignition=On

 $\tilde{\mathsf{D}}\mathsf{uring}$ driving: Acts like a regular PC, turns on/off anytime by push of the on/off button.

Step4. Ignition=Soft Off.

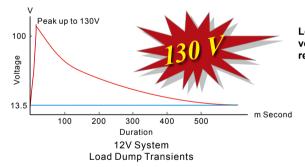
IDDV-6304140A waits for "10~40" seconds (jumper selectable) and then μ P sends a signal to turn off motherboard. The computer should turn off gracefully during the shutdown procedure. During this period, normal power will be available for the system to perform normal shutdown.

Step5. Ignition=Hard Off.

5VSB is still available for 0 seconds, 45 seconds, 1 hour, or never (jumper selectable) before being cut off by µP. At this stage, the system will keep minimum power consumption so that the system won't drain the car battery.

12V Battery Vehicle Load Dump Transients

'Load dump' transients occur when a battery is disconnected from the charging system during charge. The alternator, with a finite response time of 40ms to 400ms, generates power with nowhere to go. This damages electronic devices.



Load dump transients typically reach peak voltages of 130 volts in 12 volt systems with relatively slow rise times.

EMI sprays and RFI sparking is everywhere. Electrical transients run zapping embedded electronics. Electronics located in a vehicle must withstand 600V transients and "load dump" situations.

IDDV-6304140A Wiring Diagram

