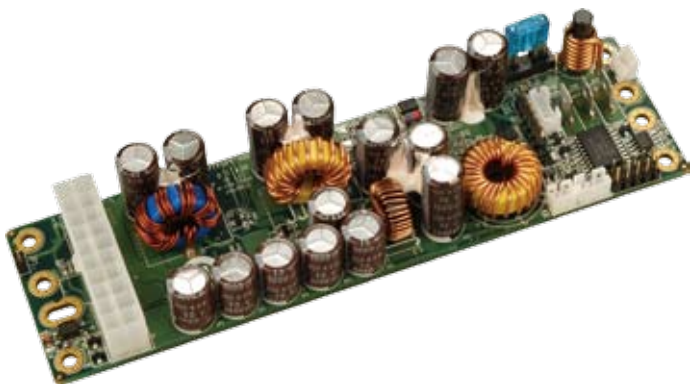


# IDDV-6304140A

140 W DC/DC Smart ATX Converter Module for Vehicle



**Dedicated ATX Power for Car PC and Battery Powered Applications**

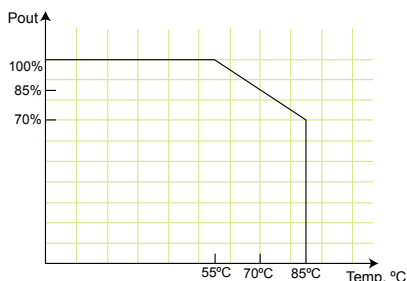
**Designed to provide power and to control the on/off switch of a motherboard based on the ignition status.**

## Features

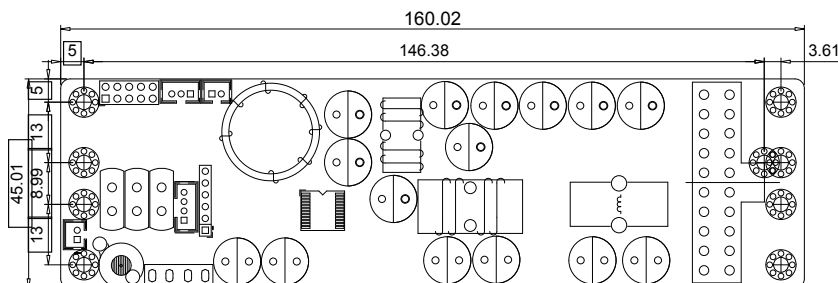
1. Wide input range: 6-30 VDC
2. Smart system on/off control
3. 6 selectable power on/off timing modes
4. Load down protection
5. Over voltage protection
6. Short circuit protection
7. Over current protection
8. Battery voltage monitor
9. Amplifier on-delay control
10. RoHS compliant
11. Compact size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



## Dimensions (Millimeters)



## PIN Assignments

### Input Power Connector

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

### Output Power Connector

J1	Standard 20-pin ATX
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## 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

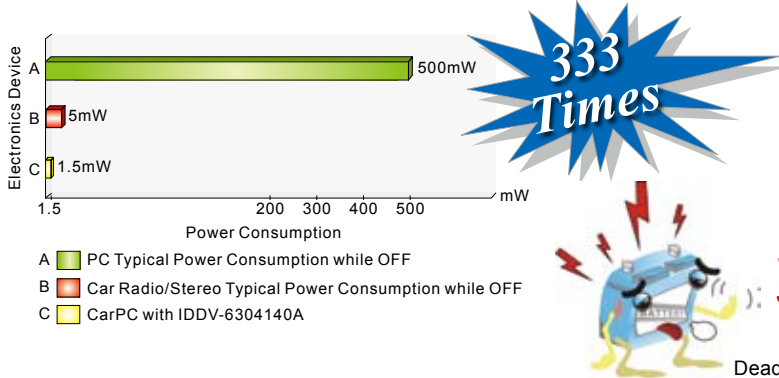
- 1 x IDDV-6304140A
- 1 x QIG
- 1 x Wire cable for PWR/SW AND MB/SW (P/N: 32100-153400-RS)
- 1 x Wire cable for LED /AMP (P/N: 32100-153500-RS)

## Ordering Information

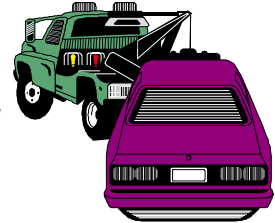
Part No.	Description
IDDV-6304140A-R10	140 W DC/DC 6-30 VDC input; vehicle converter module
CB-ATX20PIO-RS	30 cm, 20-pin ATX to 20-pin ATX / SATA (20 cm) / HDD cables
CB-BATACC-RS	30 cm, wire to battery and ACC on

## It's Not Zero Power Consumption While the PC is OFF

500mW just a typical power consumption. It's the computer trend for more & more standby power to be required.



**Standard ATX Power Supply will Drain out the Car Battery !**

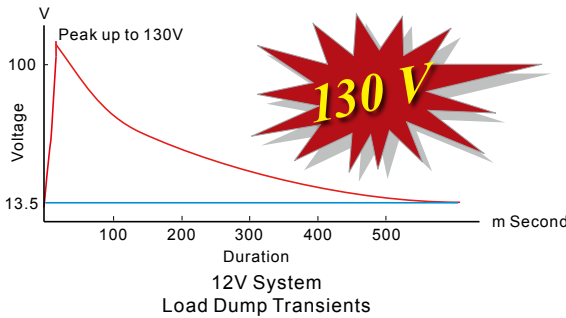


### How the IDDV-6304140A work to keep your battery alive.

- Step1.** Ignition=Off  
IDDV-6304140A cuts off all the power rails including 5VSB, internal  $\mu$ P power consumption keep less than 1.5mW.
- Step2.** Ignition=On (ACC On)  
The IDDV-6304140A waits for 10 seconds and then turns on the 5VSB rail.  
**Auto On** (jumper selectable) - After 1 sec. The  $\mu$ 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  
during driving: act like regular PC, turn on/off anytime by push the on/off button.
- Step4.** Ignition=Soft Off.  
IDDV-6304140A waits for "10~40" seconds (jumper selectable) and then  $\mu$ P send a signal to turn off motherboard. The computer should turn off gracefully by the shutdown procedure. During this period, the normal power will be available for the system perform the normal shutdown.
- Step5.** Ignition=Hard Off.  
5VSB will still available for a 0, 45 seconds, 1 hour, never (jumper selectable) then it cut off by  $\mu$ P. At this stage, the system will keep the 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 400 ms, generates power with nowhere to go. It will damage the electronics 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 and electrical transients run zapping the embedded electronics. Electronics located in vehicle environment must withstand 600V transients and "load dump" situations.

## IDDV-6304140A Wiring Diagram

