

OPUS Solutions DCX2.xx intelligent DC-DC power supply (Patent Pending) is designed specifically for ATX, BTX, uATX, Mini ITX motherboards. This product brings a new dimension to PC's mobility. Just get in your vehicle and start the engine; your PC is ready to go. When you switch off the ignition the PC can go into shut down, standby or hibernate modes automatically, no switch to fiddle or fuss!



The DCX2.xxx DC-DC power supply has a micro-controller that controls and monitors various functions of the power supply operation. It monitors vehicle battery voltage to protect against deep discharge. The ignition lead is monitored to start the PC when the ignition is turned on and to implement safe shutdown procedure. It controls and monitors motherboard signals to provide smooth power-up and power-down sequences. The power supply can be configured to shut down the PC after a predetermined delay of up to 120 min. The power supply outputs are monitored to assure proper PC operation.

Wake on interrupt feature in DC-DC together with Wake on LAN function on motherboards can be used to access the vehicle/mobile PC over wireless network without turning on the ignition switch for up to 20 min. at a time. This feature is useful for updating, uploading and down loading data/files of the car PC remotely. A green LED indicator in the power supply continually indicates the status and health. It is also used for troubleshooting.

Remote/trigger outputs of the DC-DC can be used to turn on/off slave devices such as head units, Audio Amplifiers, LCD monitors, DVD, Two way radio units, RMT1 output can be delayed to avoid thumps on Audio systems.

There are features that are built-in for trouble free and safe PC operation. The input power is protected against transients, load dumps and double battery conditions. The PC does not reboot during engine start or cranking.

It also uses state-of-the-art technologies and most advanced techniques to maximize efficiency, performance and reliability. Simply put, there is no other PC power supply like it.

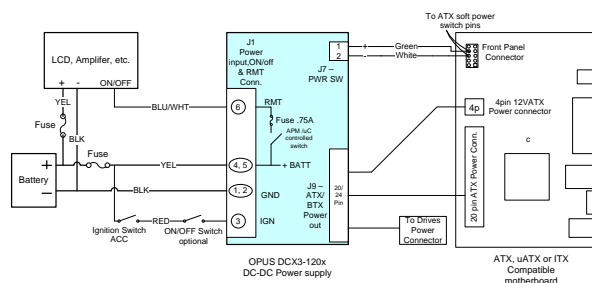
## Features

- 12V and 24V system compatible
- Wide input voltage range
- Does not Re-boot PC during engine restart/cranking
- Load dump protected
- High efficiency (extended battery life)
- Ignition or on/off switch input
- Delayed shut down timer
- Start-up and shut-down voltage selection
- Stand-by power control for low battery drain
- Automatic shutdown at low battery voltage to protect battery
- Built in diagnostics for troubleshooting.
- Extended operating temperature range
- ATX, BTX, ITX or AT motherboard compatible
- Simple to Install
- Wake on interrupt when ignition is off
- Remote/trigger output to turn on/off slave devices

## Applications

- Full featured expandable Mobile PC
- Law enforcement vehicle computers MDT
- Tele-matics, Vehicle Security, DVR etc
- Mobile GPS & tracking systems
- Mobile multimedia,
- Computers in Trucks, RVs, Boats, Aircrafts, etc.
- Computers in inventory carts, dispensing carts, etc.

## Application Wiring Example



## Technical Specifications

### Input:

Normal operating input voltage range:	7V to 32V DC (12V or 24V Battery System)
Peak input voltage range:	6.5V to 36V DC (less than 10sec at 50% duty cycle repetition)
Idle state power consumption:	< 3.5mA (when system and Standby power are off condition, JU1-6 not installed)
Input Protection:	LC Pi filter & transient protection
Input Fuse:	20A mini Blade (Automotive mini blade fuse)
Input Power Mating connector:	Plug: Molex: 39-01-2065; 2 x 3 Mini Foot Jr.

Output:	DCX2-180 180W	DCX2-240 240W	Ripple	Line + load Regulation
+3.3V:	10A max, 13A pk,	15A max, 18A pk	50mv p-p max	1%
+5 V:	10A max, 13A pk	15A max, 18A pk	50mv p-p max	1%
+12 V:	8A max, 10A pk	9A max, 12A pk	100mv p-p max	1%
-12 V:	.35 A max, 0.5 A pk,	.35A max, 0.5A pk	100mv p-p max	1%
5 V standby:	1.6 A max, 2.5 A pk	1.6A max, 2.5A pk	50mv p-p max	1%
Power supplies overall efficiency:	> 93% for 12V system and 89% for 24V system			

**Note:** Maximum output power must be de-rated to 85% to 88% for 24V system operation

Transient Response:	5uS to stead-state output voltage (with in 0.2% of Vout) for 10- 90% load change
Output Stability:	0.1% of Vout after 10 minute warm-up
Output Power Mating connector:	
Main Power output:	Mating Plug: Molex: 39-01-2245; 2 x 12 Mini ftt Jr.
Drive Power output:	Mating Plug: Molex: 39-01-2085; 2 x 4 Mini ft Jr
Power switch connector:	Mating Plug: JST: PHR-2 ; 2 pin polarized locking conn.
5V stby, PS-ON mating connector:	Mating Plug: JST: PHR-3; 3 pin polarized locking conn.

### General

Shut Down Delay Time:	10 sec., 5min, 10 min, 15min, 30 min, 45min, 60min or 120min (Jumper set JU1-1,2,3)
Start-up Voltage:	10.5V, 11.0V, 12.5V or 13.5V ± 0.25V (Jumper set JU1-4,5)
Low battery shutdown voltage:	7.5V, 9.0V, 10.5V or 12V ± 0.25V (Jumper set JU1-4,5)
Low battery detection duration:	10 Sec.
Wake on interrupt operation time:	20 minutes (while Ignition is Off)
Ignition or ON/OFF input current:	<5 mA
Remote1 output source current:	0.3A max. (Switched Battery) Rmt ON delay 1S , 10S, or 20Sec ( set by JU2-7,8)
MTBF :	500,000 hrs min.
Cooling:	Forced air or thermal coupling to heat sink for loads above 100 W.
Operating Temperature Range:	-25°C to 70°C

### External Dimensions

DC-DC PCB Module dimensions:	125mm (D) x 96mm (w) x 30mm (H) 4.92" x 3.8" x 1.2"
Weight: ( PCB module only)	180 Grams, 0.4 lb
DC-DC in SFX enclosure:	126mm x 100mm x 64mm 4.96" x 3.94" x 2.5"

Note: Specifications subject to change without notice

## Ordering Information

Part Number	Description
DCX2.180 V/H	180W intelligent Vehicle DC-DC power supply
DCX2.240 V/H	240W intelligent Vehicle DC-DC power supply
DCX2-SFX	SFX enclosure for DCX2

**OPUS Solutions, Inc.** - CA 92653 - Tel: 949-305-4200 - [sales@opussolutions.com](mailto:sales@opussolutions.com) - [www.opussolutions.com](http://www.opussolutions.com)