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**User's Manual**

3107730

**Package Contents**

- 1 - 3107730 Automotive ATX/ITX & AT intelligent DC-DC 250W Power Supply
- 1 - 20 pin ATX power cable with 2 HDD power and 1 FDD power connectors.
- 1 - 8 pin Drive power cable.
- 1 - 2 pin power switch cable.
- 1 - 10 pin DC input main power and IGN pigtail cable.
- 1 - Quick User guide (the one you are reading)

**General Information**

3107730 is designed to power almost any PC motherboard or single board computer. Motherboards must be ATX 2.01 and ACPI compliant or AT. Compatible with 12 or 24 volt battery system. The computer power-up and power-down sequence is determined by the state of ignition(ON/OFF switch input) or front panel momentary push button switch.

**Operating Modes**

**ATX Ignition Switch Mode:** System on/off is controlled by ON/OFF input pin (J1 – pin 4).

Connect ON/OFF input(J1-4) to Ignition switch ACC point or connect J1-4 to fused battery through a SPST switch to control the Power-up and Power-down sequence of the system. Make sure JU2-9 jumper is **not** loaded. Connect 2 pin cable (green and white) to J6 of 3107730 and the other end to power switch pin on the mother board. Make sure to connect green wire to +ve side of the power switch pins.

**ATX Push Button mode:** System on/off is controlled by system front panel soft ON/OFF push button switch. Connect ON/OFF input (J1-4) to ignition switch ACC point or connect J1-4 to battery along with +Batt leads (J1 – pins 6,7,8). Install Jumper on JU2 position 9. In this mode 2 pin Green and white wire power switch cable is Not used.

**AT Mode:** System on/off controlled by ON/OFF input pin (J1 – pin 4). Install jumper on J6 shorting pin 1 to 2, ( PS-ON to GND). In this mode system handshakes are partially disabled.

**DC-DC Jumper Settings** Refer to the JU1 description.

**JU1- position 1,2 & 3:** Delays system Shut-Down after ignition or ON/OFF input is turned off. The delay duration is configured by installing jumpers on JU1-position 1,2,3.

**JU1-4 & 5:** System start-up and shut-down voltages are controlled by these jumpers. The system will not power up if the battery voltage is below the Start-up voltage. Also, the system will shut down the system if the battery voltage is below the Shut- down voltage if the system was on.

**JU1-6:** Stand-by power control jumper.  
*Jumper not installed:* The stand-by power is supplied only during system operation. The OS must be configured for power down or hibernate modes only. In this mode the power drain from the battery is less than 3mA, when the system is off.  
*Jumper installed:* The stand-by power is on all the time. This jumper is required if the system is to be operated in Stand-by mode. In this mode, the system power drain is determined by the mother board power up circuit, DRAM, external USB devices, Plug-in cards etc. The power drain can be anywhere from 50 mA to 500mA depending on the system. However, If the battery voltage goes below the shut-down voltage then the stand-by power is removed to protect the battery from deep discharge.

**JU2-7 & 8:** Remote 1 ON delay is determined by these two jumper positions. The RMT1 out put can be used to turn on Audio amplifier, Head units, LCD monitors etc. The delay is introduced to provide proper power up sequence to prevent thump caused by the audio system. Remote 1 is powered down before the Shut-down delay in 3 settings and in one setting it is powered down after the shut down delay. Refer to the JU2- Jumper table.

**JU2-9:** Ignition mode and Push button mode of operation is determined by this jumper.  
*Jumper not loaded:* ATX , Ignition mode. Refer to system operation modes above.  
*Jumper Loaded:* ATX, Push-Button mode. Refer to system operation modes above

**JU2-10:** 12V and 24V operation  
*Jumper not loaded:* 12V System operation.  
*Jumper loaded:* 24V System operation.

**General wiring guidelines**

Use a dedicated #12 AWG or thicker wire for the power leads to the battery.

Use #18 AWG wire for on/off input to the DC-DC

Note: Do not share power cable with other equipment. This may introduce noise and/or IR Loss.

**Testing the PC with DC-DC Power supply installed for proper operation**

Power-up the computer by Turning the Ignition switch on (starting the vehicle) or toggling the switch on. The Green Status LED should light up constantly and the computer should power up normally.

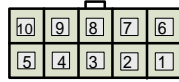
1. Open any application and test for normal operation then close the application.
2. Turn off the computer by turning the ignition switch off. Within 5-10 Sec. the PC should start to go into Standby, Hibernate or shut down mode and the Green status light should go back to the idle/standby blink rate.
4. Wait about 10 seconds and Turn on the Ignition switch again. The computer should power up normally.
5. Open an application for Standby mode testing. Use the application as you would normally.
6. While the application still on the desk top, Turn off the computer by turning the ignition switch off. The computer should go into Standby mode as configured in the operating system.
7. Repeat steps 4 to 6 for all applications that are used in your computer.

Note: All applications software must be checked for proper Standby or Hibernate mode operation. If any application has problem going into Standby mode then the operating system must be configured for Shutdown or Hiberbate mode

DC-DC power supply Connectors

J1 - Input Power, On/Off input, Remote1, Remote2 and +12V out connector

J1 - Input Power Connector



Connector type used: Molex: 39-30-1100  
Mating connector type: Molex: 39-01-2100

Pin#	Function	Description	Pin#	Function	Description
1	GND	Power Ground (Input - BLK)	6	+BATT	Battery (Input - YEL)
2	GND	Power Ground (Input - BLK)	7	+BATT	Battery (Input - YEL)
3	GND	Power Ground (Input - BLK)	8	+BATT	Battery (Input - YEL)
4	ON/OFF	On/Off or ACC (Input - RED)	9	RMT-1	Remote 1 On/Off (Output - BLU/WHT)
5	12V out	12V Regulated (output - ORN)	10	RMT-2	Remote 2 On/Off (Output - BLU)

RMT-1 - This output can be used to turn ON/OFF the remote devices such as Audio amplifier, Camera, etc. Remote turn ON delay and OFF state is set by JU2-7,8.

RMT-2 - This output can be used to turn ON/OFF the remote devices such as Monitors, Radio devices, External DVD, Camera, etc. Remote turn ON and OFF is controlled by the system power.

J3 - External / Remote LED connector

Pin#	Function	Description
1	LEL+	IO External LED Anode - output
2	LEL-	IO External LED Cathode - output
3	OB LED	On Board LED Cathode - input



Connector type used: Molex: 24-24-5034  
Mating connector type: Molex: 24-01-3037

Factory Default Setting: Pin 1 and Pin 2 are shorted with shorting jumper for on board LEL

To connect External LEL: Remove shorting jumper and Connect Anode of external LED to pin 1 and cathode to pin 2

J6 - PS-ON\* signal and Stand-by Power connector

Pin#	Function	Description
1	GND	Ground (BLK)
2	PS-ON*	Power supply ON* (Input - BLK)
3	+5V STBY	+5V Stand-by power (Output - PUR)



Connector type used: Molex: 24-24-5034  
Mating connector type: Molex: 24-01-3037

Factory default is ATX mode operation. For AT mode operation, Short Pin 1 to 2 with a shorting jumper.  
Note: Connector is loaded only on DC-DC's with Stand-by power circuit loading.

J7 - Power-Switch connector

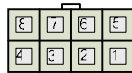
Pin#	Function	Description
1	PWR-SW+	Power-Switch + (Output - GRN)
2	PWR-SW-	Power-Switch - (Output - WHT)



Connector type used: Molex: 24-24-5024  
Mating connector type: Molex: 24-01-3027

Connect to Motherboard or SBC power switch pins. OBSERVE pin polarity for proper operation.

J8 - Drive Power connector



Connector type used: Molex: 39-25-3086  
Mating connector type: Molex: 39-01-2086

Pin#	Function	Description	Pin#	Function	Description
1	+12V	+12V Output (Output - YEL)	5	+12V	+12V Output (Output - YEL)
2	GND	Power Ground (Return - BLK)	6	GND	Power Ground (Return - BLK)
3	GND	Power Ground (Return - BLK)	7	GND	Power Ground (Return - BLK)
4	+5V	+5V Output (Output - RED)	8	+5V	+5V Output (Output - RED)

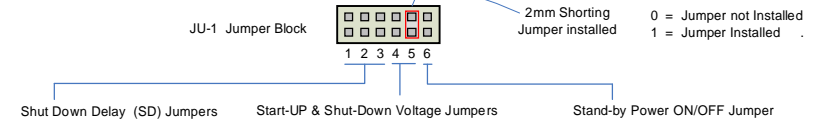
J9 - BTX/ATX Power connector



Connector type used: Molex: 39-24-1241  
Mating connector type: Molex: 39-01-2241

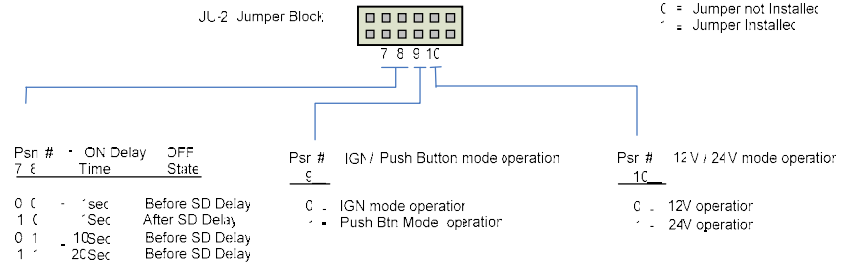
Pin#	Function	Description	Pin#	Function	Description
1	+5.0V	+5.0V (Output - ORN)	13	+5.0V	+5.0V (Output - ORN)
2	+5.0V	+5.0V (Output - ORN)	14	12V	12V (Output - BLK)
3	GND	Power Ground (Return - BLK)	15	GND	Power Ground (Return - BLK)
4	+5V	+5V (Output - RED)	16	PS-ON*	Power supply ON (Input - GRN)
5	GND	Power Ground (Return - BLK)	17	GND	Power Ground (Return - BLK)
6	+5V	+5V (Output - RED)	18	GND	Power Ground (Return - BLK)
7	GND	Power Ground (Return - BLK)	19	GND	Power Ground (Return - BLK)
8	PWR GD	Power Good (Output - GRN)	20	NC	No connection
9	+5V STBY	+5V Stand-by (Output - PUR)	21	+5V	+5V (Output - RED)
10	+12V	+12V (Output - YEL)	22	+5V	+5V (Output - RED)
11	+12V	+12V (Output - YEL)	23	+5V	+5V (Output - RED)
12	+5.0VS	+5.0VS (Input - ORN)	24	GND	Power Ground (Return - BLK)

JU1 - Shut-Down Delay, Shut-down / Start-up voltage & Stand-by Power Jumpers



Pin#	Function	Description	Pin#	Function	Description	Pin#	Function	Description
1, 2, 3	SD Delay	Time	4, 5	Start-UP Voltage	Shut-Down Voltage	6	Stand-by Power state	
0 0 0	-	(10 Sec)	0 0	-	10.5V - 7.0V	0	-	Stand-by Pwr OFF
1 0 0	-	5 Min	1 0	-	11.0V - 9.0V	0	-	Stand-by Pwr ON
0 1 0	-	10 Min	0 1	-	(12.5V) - (10.5V)	0	-	
1 1 0	-	15 Min	1 1	-	13.5V - 12.0V	0	-	
0 0 1	-	30 Min	0 0	-	20.0V - 15.0V	1	-	If Stand-by Jumper is installed, then, Stand-by voltage is maintained after Power down. Required for Stand-by mode operation only. Stand-by power is removed if the battery voltage goes below Shut-Down voltage.
1 0 1	-	45 Min	1 0	-	22.0V - 18.0V	1	-	
0 1 1	-	1 Hr	0 1	-	(24.0V) - (21.0V)	1	-	
1 1 1	-	2 Hrs	1 1	-	25.0V - 22.0V	1	-	

JU2 - Remote ON Delay, Push-Button Mode and 24V mode Jumpers



Pin#	Function	Description	Pin#	Function	Description	Pin#	Function	Description
7	ON Delay	Time	8	IGN / Push Button mode operation		10	12V / 24V mode operation	
0 0	-	sec	0	-	IGN mode operation	0	-	12V operator
1 0	-	Sec	1	-	Push Btn Mode operation	1	-	24V operator
0 1	-	10Sec						
1 1	-	20Sec						



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Any advice or comments about our products and service, or anything we can help you with please don't hesitate to contact with us. We will do our best to support you for your products, projects and business.

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