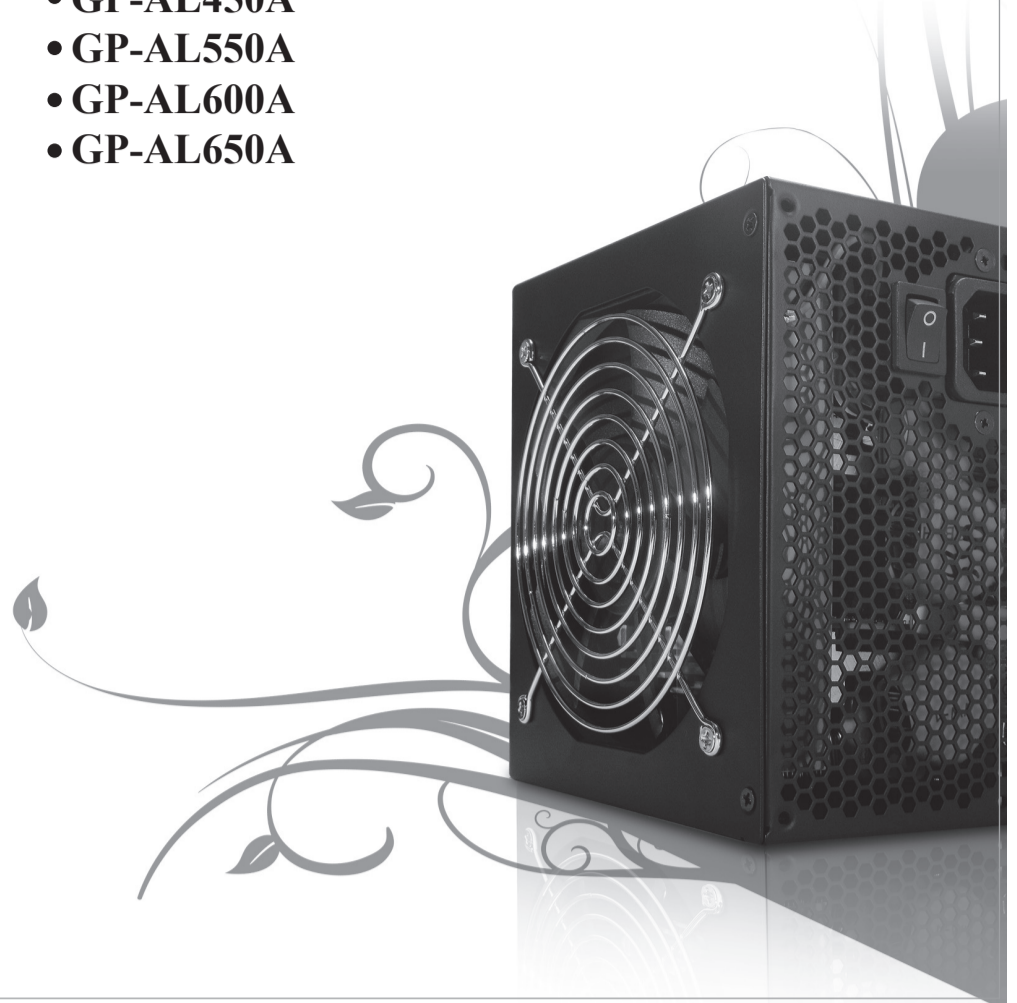


User's Manual

- GP-AL350A
- GP-AL450A
- GP-AL550A
- GP-AL600A
- GP-AL650A



GlacialTech[®]

Enlighten Your Humanity

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English

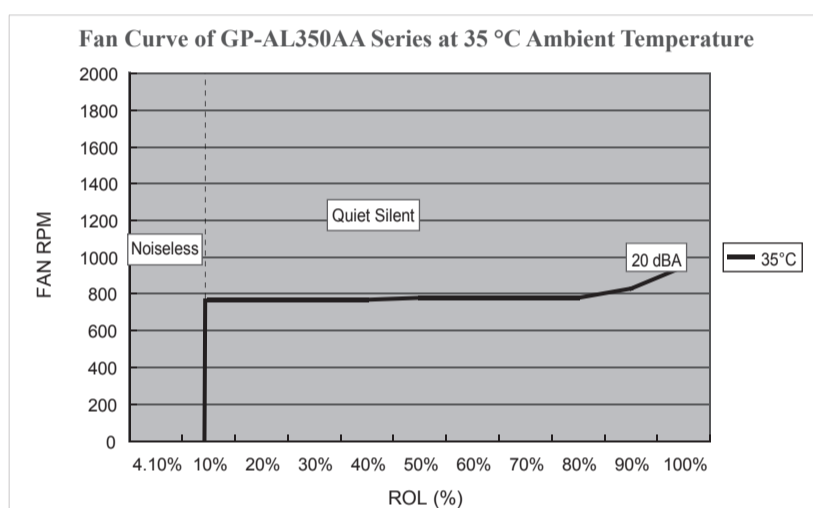
Introductions

GlacialPower AL series products are designed to be in compliance with ATX12V V2.2 to support the latest Intel Core™2 Duo and AMD Athlon™ 64 X2 CPU systems. You have made a wise choice in selecting GlacialPower products. Our products will be your pleasure.

Features

- ATX12V Version 2.2
- Designed with active PFC function
- Dual +12V rails and +5Vsb capability at 15W
- Full output power from 0°C to 50°C
- Full protection features of SCP, OVP, OCP, OPP, OTP
- Power efficiency meets Energy Star 80 plus program criterion
- Fan speed control and delay shut down to extend components lifetime
- Fan switches off (0 dBA) at low load and size is selectable between 8cm and 12cm
- 100% full load burn-in test and RoHS compliance
- Manufactured with the high reliability and in strict accordance with processes

The AL series products are designed with reliable forward topology which presents the highest reliability, highest stability and highest efficiency. The series of products provide real full specification performance in all kinds of environments. The intelligent and unique fan control circuit is designed to acquire a fan speed (RPM) in relation to the inside temperature of the power supply. After initially starting up, the fan turns off when the first mains power is on. The fan will then be turned on again at a minimum low speed until the PSU temperature inside rises to around 50°C. The PSU fan will be fully turned-off when the system reaches certain low loads (the same as in Standby or Sleep Mode) to achieve real noiseless conditions. This feature also prolongs the fan lifetime. In cases of heavy loading the system turns off softly (PS, OFF) and the PSU fan delays to turn off until inside temperatures are below 40°C. The graph (Fan Curve of GP-AL350AA at 35°C Ambient Temperature) shows the intelligent and silent fan curve for a typical AL series power supply.



English

Specifications

AC Input Line Requirements

Parameter	Min.	Nom.	Max.
Vin	90 Vrms	100 ~ 240 Vrms	264 Vrms
Vin Frequency	47 Hz	50 / 60 Hz	63 Hz

Model: GP-AL350A

DC Output Load

DC Output	+5V	+3.3V	+12V1	+12V2	-12V	+5Vsb
Nominal Output Voltage (V)	5	3.3	12	12	-12	5
Min. Current (A)	0.3	0.3	0.5	0.5	0	0
Max. Current (A)	15	20	12	15	0.6	3
Peak Current (A)			13	17		3.5
Max. Power (W)	75	66	192	204	7.2	15
Combined Max. Power (W)	120		300		7.2	15
Total Max. Output Power (W)	350					

Model: GP-AL450A

DC Output Load

DC Output	+5V	+3.3V	+12V1	+12V2	-12V	+5Vsb
Nominal Output Voltage (V)	5	3.3	12	12	-12	5
Min. Current (A)	0.3	0.3	0.5	0.5	0	0
Max. Current (A)	18	22	16	17	0.6	3
Peak Current (A)			17	19		3.5
Max. Power (W)	90	72.6	192	204	7.2	15
Combined Max. Power (W)	130		360		7.2	15
Total Max. Output Power (W)	450					

Model: GP-AL550A

DC Output Load

DC Output	+5V	+3.3V	+12V1	+12V2	-12V	+5Vsb
Nominal Output Voltage (V)	5	3.3	12	12	-12	5
Min. Current (A)	0.3	0.3	0.5	0.5	0	0
Max. Current (A)	22	25	18	18	0.6	3
Peak Current (A)			19	19		3.5
Max. Power (W)	110	82.5	216	216	7.2	15
Combined Max. Power (W)	150		432		7.2	15
Total Max. Output Power (W)	550					

English

Model: GP-AL600A

DC Output Load

DC Output	+5V	+3.3V	+12V1	+12V2	-12V	+5Vsb
Nominal Output Voltage (V)	5	3.3	12	12	-12	5
Min. Current (A)	1.0	0.5	1.0	1.0	0	0
Max. Current (A)	22	30	25	20	0.6	3
Peak Current (A)			26	21		3.5
Max. Power (W)	110	100	300	240	7.2	15
Combined Max. Power (W)	150		504		7.2	15
Total Max. Output Power (W)	600					

Model: GP-AL650A

DC Output Load

DC Output	+5V	+3.3V	+12V1	+12V2	-12V	+5Vsb
Nominal Output Voltage (V)	5	3.3	12	12	-12	5
Min. Current (A)	1.0	0.5	1.0	1.0	0	0
Max. Current (A)	22	30	25	20	0.6	3
Peak Current (A)			26	21		3.5
Max. Power (W)	110	100	300	240	7.2	15
Combined Max. Power (W)	180		504		7.2	15
Total Max. Output Power (W)	650					

Output Connector Quantities



Model	Main Power (20+4)P	CPU Connector (4P)	5.25" HDD (4P)
GP-AL350	1	1	4
GP-AL450	1	1 (4P+4P)	6
GP-AL550	1	1 (4P+4P)	6
GP-AL600	1	1 (4P+4P)	6
GP-AL650	1	1 (4P+4P)	6

English



Model	Serial ATA	3.5" FDD (4P)	PCI-E (6P)
GP-AL350	4	1	1 (6P)
GP-AL450	6	1	2 (6+2P)
GP-AL550	6	1	2 (6+2P)
GP-AL600	6	1	2 (6+2P)
GP-AL650	6	1	2 (6+2P)

Power Supply Installation Instructions

For New System

1. Consult your system or chassis manual to open your computer chassis properly.
2. Position the power supply into your computer chassis and secure with screws.
3. Connect DC output connectors to mother board and peripheral devices.
 - a. Attach the (20+4) pin main power connector to mother board 24 pins connector, or use the 20 pins main power connector to connect to mother board 20 pins connector.
 - b. Attach the 4+4 pins +12V power connector to mother board 4 pins CPU connector.
 - c. Attach the peripheral 4 pins connector to the peripheral devices (HDD, ODD). The Serial ATA connectors are for your hard disk drivers with Serial ATA interface.
 - d. Attach 4 pins floppy disk driver power connector to the floppy driver.
 - e. If you have the graphic card, please attach the 6+2 pins +12V power connector(s) to PCI-E graphic card(s).
4. Arrange the wires carefully to avoid any wires blocking the CPU and/or system fan.
5. Follow the system or chassis manual to close your computer system chassis properly.
6. Switch the "I/O" AC power switch to "I" status then turn on your computer.



For Replacement

1. Make sure the system power is turned off and power cord is disconnected.
2. Consult your system manual to open the system chassis properly.
3. Disconnect all old power supply DC output connectors from mother board and other peripheral devices.
4. Remove old power supply screws from the system chassis then remove old power supply from the system.
5. Follow Step 2 to 6 mentioned above to complete the new power supply replacement and run your system with new power supply.

English

Warnings

1. Do not open the power supply chassis. Warranty becomes invalid, if the power supply chassis cover is removed. Under no circumstances should the power supply cover be opened. There are dangerous high voltages inside the power supply.
2. Make sure the input voltage range switch is on right position before plug the AC power cord and turn on the power supply. Wrong input voltage switch setting will cause the system not to operate properly or to damage the power supply permanently.
3. Please keep the power supply away from humidity and do not block the exit of the air flow in operation.

Trouble Shooting

If the power supply fails to operate properly, please follow steps given below to check, before you return it for repair.

1. Does the input voltage range switch in right position?
2. Does the AC power cord plug properly from wall outlet to AC inlet of the power supply?
3. Ensure the power supply "I/O" switch is switched to "I" status.
4. Check all DC output connectors are properly connected to all locations and devices.
5. Recycle turn-off and turn-on the power supply through the "I/O" switch with intervals at least 20 seconds.

Safety Approval

