



KOOLANCE[®]
Superior Liquid Cooling Systems



PSU-1200ATX-12S User's Manual

English v1.02

ISO
9001

Printed in Korea

Protected by U.S. Patents 6,664,627; 6,313,990; 6,234,240; 5,731,954
Other Technology Pending U.S. & World-Wide Patents

GENERAL PRECAUTION

Please read this manual carefully before beginning the installation of your Koolance product. This manual assumes the user has basic experience in building and configuring computer systems. Information referring to traditional hardware assembly is intentionally brief.

ABOUT SIGNS

Throughout this document, critical information is highlighted in gray-colored boxes. The following symbols are intended to help prevent any situation which may cause personal injury and/or damage to equipment:



WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in personal injury or be life-threatening.



CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in damage to equipment.



PROHIBITED: Indicates a prohibited action.

PROHIBITED USE

This product is designed, developed and manufactured as contemplated for general use, including without limitation: general office use, personal use and household use, but is not designed, developed and manufactured as contemplated for use accompanying fatal risks or dangers that, unless extremely high safety is secured, could lead directly to death, personal injury, severe physical damage or other loss, including without limitation: nuclear power core control, airplane control, air traffic control, mass transport operation control, life support, or weapon launching control. If these products are used in such hazardous environments, Koolance Incorporated does not warrant them.

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WARNING: Never open the power supply, expose the internal liquid coolant, or remove the liquid coolant. If liquid is removed, the power supply will be permanently damaged. All warranties are voided upon opening the product or removing its liquid.

First aid measures are not anticipated if coolant ingestion has occurred. If irritation has occurred with eye or skin contact, flush with water for 15 minutes. Remove contact lenses. Call a physician if any irritation persists. For further information, please visit our website at: www.koolance.com



CAUTION: Koolance Incorporated can not be held responsible for any damage to your system due to misconfiguration or incorrect installation. If there is any point of installation that you do not understand, please contact our Technical Support Staff at: tech@koolance.com, or visit our website at: www.koolance.com/support



CAUTION: Liquid cooling systems are not yet universally supported by hardware manufacturers. In some situations, adding liquid coolers and other components to computer hardware might void the manufacturer's original warranty. Installation of the device is ultimately done at the user's own risk. If you have any specific questions on warranty coverage, please contact your component or computer manufacturer.

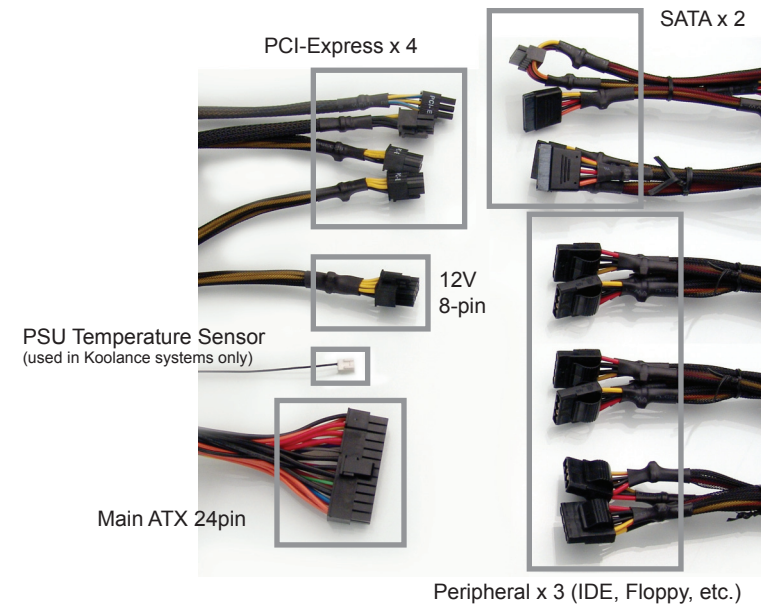
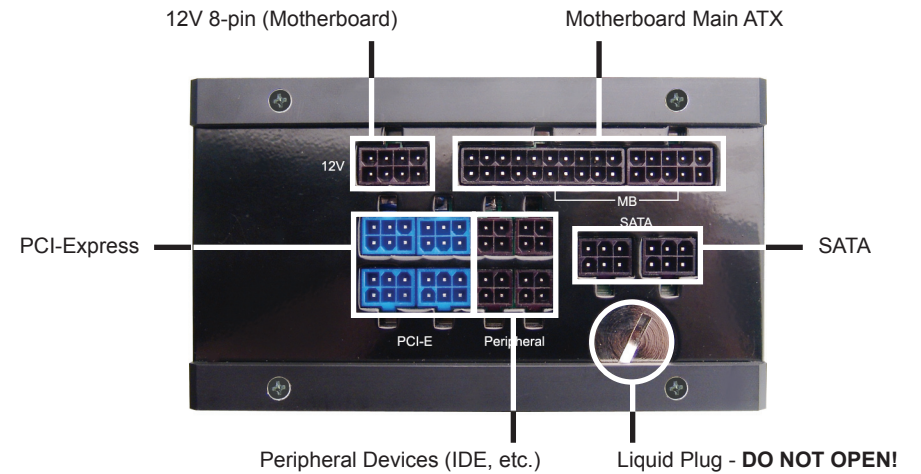
KOOLANCE CONTACT INFORMATION

Koolance Incorporated (USA)

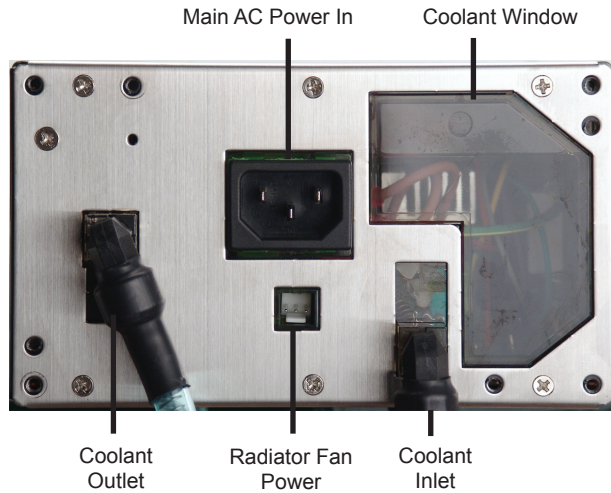
Address: 2840 W. Valley Hwy. N., Auburn, WA, USA 98001
Telephone: +01-253-893-7551
Sales Email: sales@koolance.com
Tech Email: tech@koolance.com
Web: www.koolance.com

Internal Connections

The modular connections must match with their appropriate plug on the PSU (power supply unit). Pay careful attention to the direction of each plug and notch while inserting, as some are upside-down. Never force a plug into the PSU.



External Connections



Installation

The Koolance PSU-1200ATX-12S uses an external radiator to cool the circulating liquid coolant. Since it uses a special nonconductive fluid and is self-cooled, the power supply is not connected to any other cooling system for heat dissipation.

During installation, the radiator is removed and reattached to the power supply after mounting it inside the computer chassis.



CAUTION: The PSU must be mounted in one of two directions. Otherwise, the pump will not allow appropriate circulation of the liquid, and/or the coolant will not fully submerge internal heat sources.



CORRECT PSU Direction



CORRECT PSU Direction

Limited Warranty

Koolance Incorporated (“Koolance”) warrants each new PSU-1200ATX-12S liquid-cooled power supply (“the system”), against defects in materials or workmanship for a period of two years from the date of purchase, and agrees to repair or replace any defective Koolance system without charge. Shipping costs are non-refundable.

This warranty is non-transferable. All warranty claims must be accompanied by the original proof of purchase.

THIS WARRANTY DOES NOT COVER DAMAGE RESULTING FROM ACCIDENT, MISUSE OR ABUSE, LACK OF REASONABLE CARE, SHIPPING DAMAGE, MODIFICATIONS, THE AFFIXING OF ANY ATTACHMENT NOT PROVIDED WITH THE PRODUCT, OPENING OF THE PRODUCT, LOSS OF PARTS OR LIQUID, OR OPERATING COMPONENTS AT SPEEDS OR FUNCTIONS OTHER THAN THOSE SPECIFIED BY THEIR MANUFACTURERS.

Use of unauthorized replacement parts or liquid additives will void this warranty. Koolance Incorporated will not pay for warranty service performed by a non-authorized repair or diagnostic service and will not reimburse the consumer for damage resulting from warranty service performed by a non-authorized repair service. No responsibility is assumed for any special incidental or consequential damages due to a defective Koolance product.

In order to obtain warranty service, contact our RMA department for information. The product must be shipped postage prepaid to an authorized Koolance service location. It is suggested that, for your protection, you return shipments of product by insured mail, insurance prepaid. Damage occurring during shipment is not covered by this warranty. Shipping costs are non-refundable. No other warranty, written or oral, is authorized by

Disclaimer

IN NO EVENT SHALL KOOLANCE INCORPORATED OR ITS EMPLOYEES, AGENTS, SUPPLIERS, MANUFACTURERS, OR CONTRACTORS BE LIABLE FOR ANY DAMAGES OF ANY KIND OR CHARACTER, INCLUDING WITHOUT LIMITATION ANY COMPENSATORY, INCIDENTAL, DIRECT, INDIRECT, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, LOSS OF USE, LOSS OF DATA, LOSS OF INCOME OR PROFIT, LOSS OF OR DAMAGE TO PERSONS OR PROPERTY, CLAIMS OF THIRD PARTIES, OR OTHER LOSSES OF ANY KIND OR CHARACTER, AND WHETHER OR NOT THE POSSIBILITY OF SUCH LOSS OR DAMAGE HAS BEEN NOTIFIED TO KOOLANCE INCORPORATED.

Specifications

AC Input

Operating Range: 90-264VAC;
Power Factor > 0.9

Frequency: 47-63Hz
Current: 15A @ 115V
Efficiency: 80% min.

DC Output

Output Max: +5V @ 30A
+12V1@18A, 12V2@18A, 12V3@30A, 12V4@30A
-12V @ 0.8A
+3.3V @ 30A
+5VSB @ 3.0A

Continuous Power: 1200W
Peak Power: 1400W
Regulation: 3% (+3.3V, +5V, +12V)
+9-5% (-12V)
Ripple: 1% (+5V, +5VSB, -12V), 1.5% (+3.3V), 2% (12V)
Hold Time: 16ms min.
PG Delay: 100~500ms

Safety

OV Protection: +3.3V, +5V, +12V

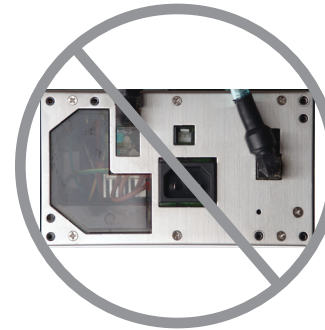
OC Protection (all to ground): +3.3V, +5V, ±12V

Environmental

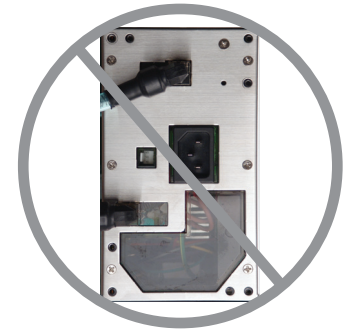
Temperature: 0 - 40°C
Humidity: 20 - 90% RH
Fan Type: 30 - 107CFM Dual-Ball Bearing
Noise: 25 - 33dBA

Miscellaneous

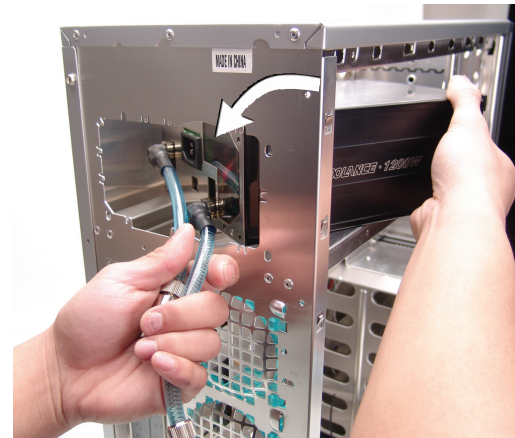
Compatibility: EPS12V
MB Connectors: 1 x 24-pin, 1 x 8-pin,
4 x 6-pin Video
Driver Connectors: 6 x SATA, 12 x Molex,
1 x Mini



INCORRECT Direction



INCORRECT Direction



Insert the power supply into the chassis (per normal installation).

The external radiator should be disconnected during this step via the quick disconnect shutoff valves.

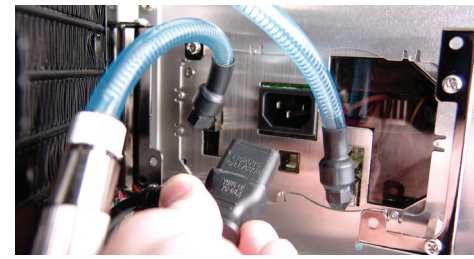
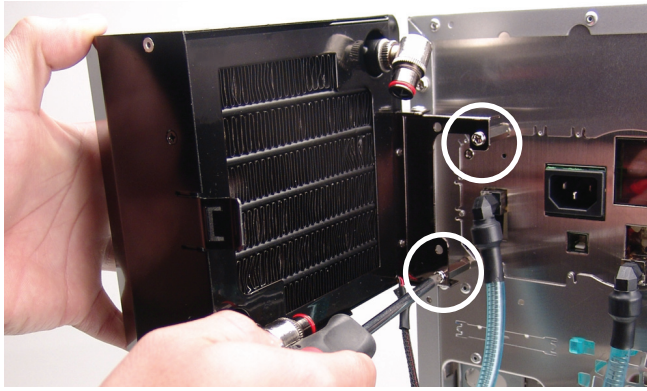
Feed the connected hoses through the power supply mounting plate hole.



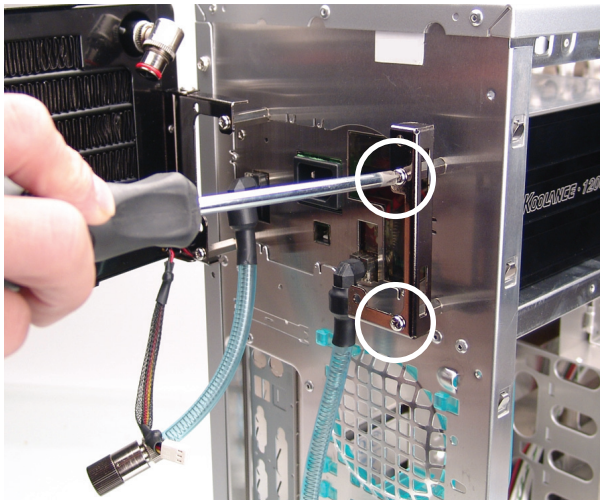
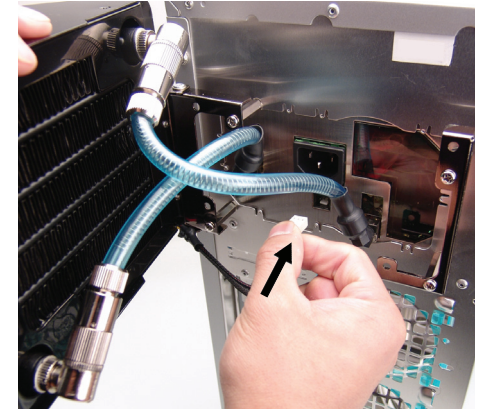
Screw the 4 mounting posts into the available power supply mounting screw locations.

These locations may vary depending on the individual chassis. The power supply has multiple post holes to accommodate variations.

Attach the external radiator with the included mounting bracket. Two holes should align with the installed screw posts.



Connect the main AC (angled) plug and radiator fan to the power supply.



Screw in the secondary mounting bracket opposite the radiator side. Two holes should align with the screw posts.



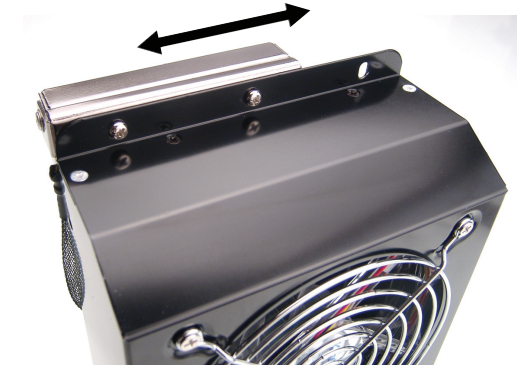
Swing the radiator closed to latch it.

Ensure the nozzles on the power supply and radiator swivel properly. The hoses should not be stressed or folded when opening and closing the external heat exchanger.

Miscellaneous

If disconnecting the shutoff nozzles, a small amount of coolant will leak. This is normal. Avoid disconnecting the radiator nozzles when possible.

In addition to mounting upside-down, the radiator can be moved up or down (or left/right) relative to the computer chassis.



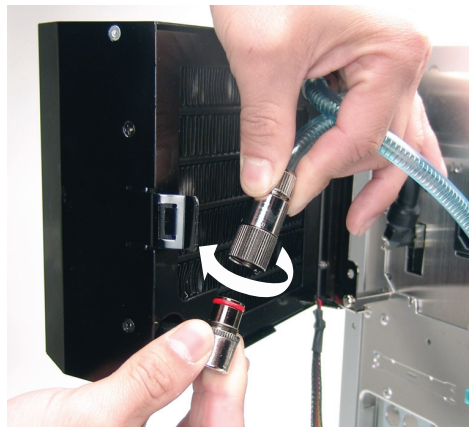
This is intended to avoid conflicts with the chassis or motherboard connections.

Note that the power supply itself can NOT be operated upside-down, only the external radiator.

Connect the power supply coolant hoses to the radiator.

The liquid's direction is not important, but the hoses must allow the radiator to swing closed easily (without damaging the radiator's fins).

See the following images for the recommended hose configuration.



The PSU-1200ATX-12S has an internal temperature sensor. If the power supply reaches a preset limit, the unit will sound an audio alarm. The temperature can be read via the "PSU Temperature Sensor" plug when connected to a compatible Koolance system (PC3-700 series or later).