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Specifications Sheet

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P/N: PSU-1300ATX-12N

Koolance 1300/1700W Liquid-Cooled Power Supply

(*See HardOCP's in-depth review of the Koolance PSU-1300ATX-12N water cooled power supply!*)

Koolance offered the world's first water cooled ATX power supply in 2001. Now continuing with our patented line of innovative liquid-submerged power supplies comes the 1300/1700W **PSU-1300ATX-12N**. Completely flooded in a special non-conductive cooling liquid, the fan-less PSU-1300ATX-12N is superior to even "partly" water cooled and heat pipe power supplies.

Wattage - 1300 or 1700W Continuous!

Due to U.S. regulation, power draw over a typical household 110-volt AC line limits the PSU-1300ATX-12N to 1300W. However, the unit is fully capable of a **continuous 1700 watts when powered from a 220V AC circuit**. Users are responsible for supplying adequate AC power for the PSU-1300ATX-12N.

Heat Transfer Method

Featuring a compact liquid-to-liquid heat exchanger developed exclusively by Koolance, the PSU-1300ATX-12N provides the most efficient heat transfer available among any ATX power supply. Heat from *each* component is dumped directly into an internally circulating non-conductive liquid, through the heat exchanger, and out to an existing water cooling system. Thus, liquids are kept completely separate and normal cooling fluid can be used with the PSU-1300ATX-12N.

The PSU-1300ATX-12N is not a self-dissipating product and must be connected to an existing water cooling system via its external fitting sockets (G 1/4 BSPP threading). A PCI L-bracket "slot adapter" is provided for easy hose routing back into the chassis through an available card slot. This helps reduce the power supply's internal length.

The PSU-1300ATX-12N is capable of producing some extreme wattages. When used at maximum output capacity, Koolance recommends a water cooling system capable of dissipating at least 250W of heat while powered by 110VAC, or 300W for 220VAC. This is in addition to other water-cooled components. In other words, if your cooling system is designed around a 700W hardware heat load (CPU and dual video card water blocks, for example), the PSU-1300ATX-12N should be allotted an additional 250-300W of cooling capacity. If unavailable, it is also possible to dedicate a separate cooling system solely for the power supply, such as a Koolance Exos system.

Features

- Power efficiency is rated at 83% (avg) to 85% (max) for 110V, and 86% (avg) to 87% (max) for 220V!
- Fully modular plugs and cables
- Four 8-pin and four 6-pin PCI-Express connections for convenient quad SLI and CrossFire™ support
- Two 8-pin (or 4-pin) 12V connections for server motherboards
- Four internal temperature sensors, with liquid temp outputted for monitoring (when used with compatible Koolance systems, PC3-700/Exos-2 series and later)
- Built-in audio alarm and auto-shutdown features based on three internal temperatures and the pump
- The only material in contact with the external cooling liquid is stainless steel

IMPORTANT NOTES

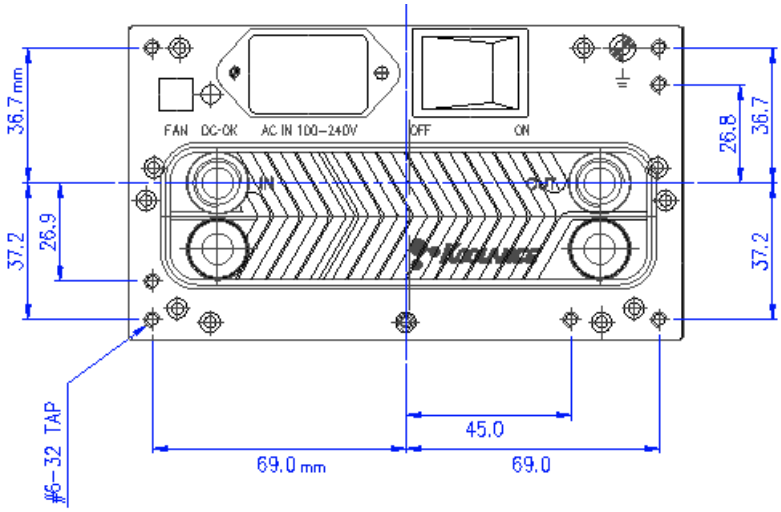
- The PSU-1300ATX-12N can be used in most ATX, E-ATX, and BTX chassis that provide for 9.45" (24cm) power supply depths, not including cable space. (Please see the compatibility page for more information.)
- The PSU-1300ATX-12N's small external liquid-to-liquid heat exchanger may conflict with some chassis that use restrictive rear mounting plates for the power supply. In most situations, minor modification to this plate (or removal, where possible) will fix the issue. (Please see the compatibility page and product manual for more information.)
- Due to the weight of the unit, additional support may be required for top-mounted-PSU chassis that can benefit from increased stabilization.
- For internal cooling systems, a PCI "slot adapter" is included to route 6mm (1/4in) or 10mm (3/8in) ID tubing back into the chassis. 13mm (1/2in) tubing will not easily fit through a PCI slot and must be routed into the chassis another way (for example, via the Koolance BKT-PCI-G).

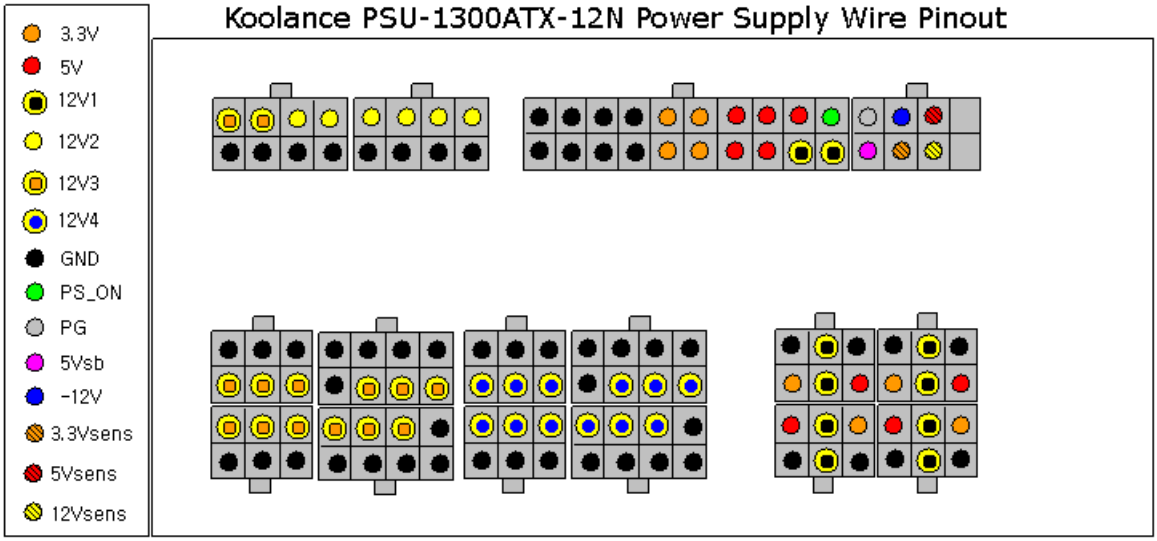
Power Specifications

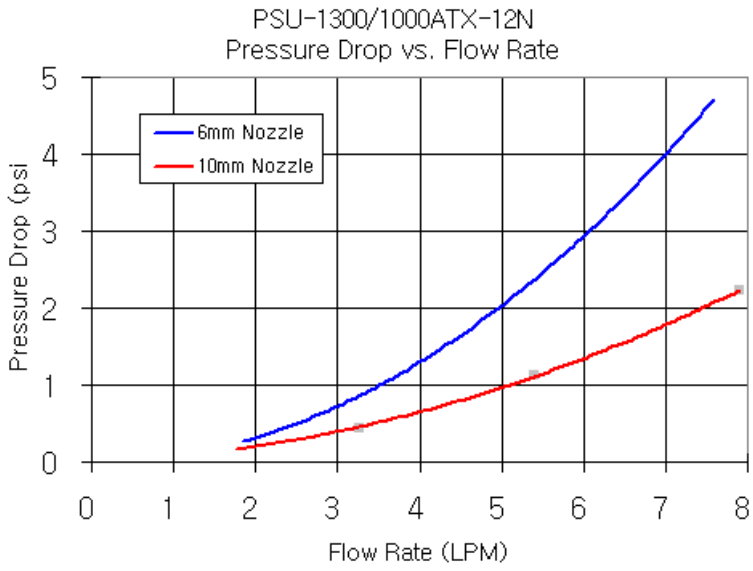
Type	EPS12V
Max. Power (Continuous)	1300W @ 110V, 1700W @ 220V
Operating Range	90-264V @ 110V, 180-264V @ 220V, Auto-Switching
Current	15A @ 110V, 10A @ 230VAC
Fan	(none)
PFC	Active
Efficiency	83-85% @ 110V; 86-87% @ 220V
Power Factor	>0.99
DC Output	+5V @ 30A +3.3V @ 30A +12V @ 120A (12V1@20A, 12V2@20A, 12V3@40A, 12V4@40A) 12V1, 12V4, 3.3V total combined power = 650W@110V, 850W@220V 12V2, 12V3, 5V total combined power = 650W@110V, 850W@220V -12V @ 0.8A +5VSB @ 3.5A
Regulation	3% (3.3V, +5V, +12V) +3-5% (5Vsb) 10%(-12V)
Ripple	120mV (+12V, -12V), 50mV (3.3V, 5V, 5Vsb)
Noise	*240mV (+12V, -12V), 100mV (3.3V, 5V, 5Vsb) *When 0.1uF and 47uF capacitors are added across the output terminal during ripple & noise test.
Hold Time	13ms
PG Delay	100~500ms
Over Voltage Protection	+3.3V, +5V, +12V
Under Voltage Protection	+3.3V, +5V, +12V
Over Current Protection	+3.3V, +5V, +12V
Over Temperature Protection	Heat sink: 85°C Alarm, 90°C Power-Off
Operating Temperature	0-50°C (External secondary coolant temperature)
Storage Temperature	-10 - 70°C
Humidity	20-90% RH
Altitude	0-7000 feet (0-2134m)
Certifications	(Pending)
Cables	1 x 24-pin motherboard 2 x 8-pin (or 4-pin) 12V CPU/motherboard 4 x 8-pin (1-plug) PCI-E 4 x 6-pin (1-plug) PCI-E 2 x (4-plug) SATA 1 x (4-plug) Molex 1 x (4-plug + 1 FD) Molex peripheral + floppy

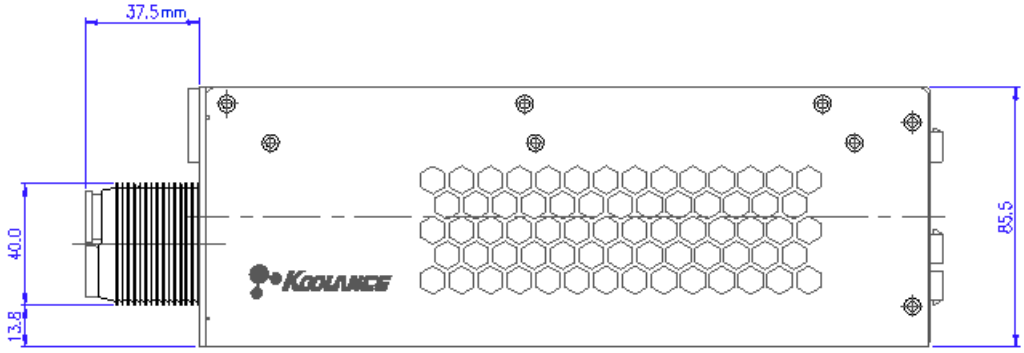
General	
Weight	16.50 lb (7.48 kg)

General	
Materials	Nickel-Plated Brass, Stainless Steel, EPDM






PSU-1300/1000ATX-12N
Pressure Drop vs. Flow Rate
6mm Nozzle
10mm Nozzle
Pressure Drop (psi
Flow Rate (LPM)
0
1
2
3
4
5
6
7
8


37.5mm
40.0
13.8
85.5
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