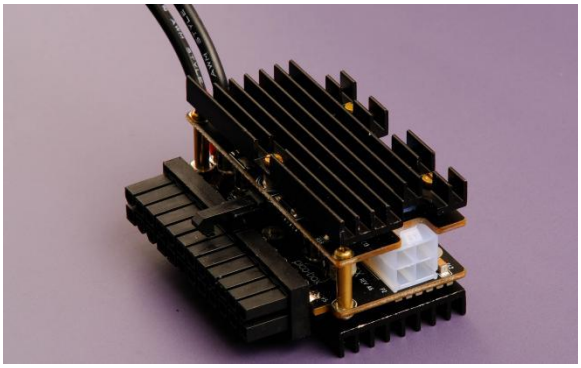
Z4-ATX-220

16~28v Wide Range Input 200w Output Plugin DC-DC ATX Power Supply

SPECIAL FEATURES

- ✧ Small, Silent and Smart PSU [S^{3}PSU]
- ✧ Operates at 16V to 28V Wide Range Input
- ✧ High Efficiency [>90%]
- ✧ Arm® Cortex®-M0+ 32-bit RISC MCU Inside with Intelligent Control
- ✧ Highly Reliable Tantalum Capacitors
- ✧ OCP, OVP, and OTP
- ✧ Direct Plugin to Motherboard, Cutting Out ATX Cable
- ✧ Compact Board Size: 61mm (L) x 33mm (W) x 20mm (H)



CE

DC INPUT

NO.	DC Input Voltage	DC Jack	DC Input Cable Length
1	16V~28V (OVP at 28.2~28.5V)	5.5mm x 2.5mm	400mm

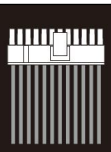
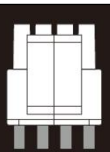
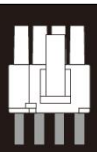
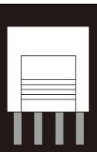
Note: User can choose AC power adapter with 19VDC, 20VDC or 24VDC output as the power source.

POWER RATINGS

Voltage Rail	Max Load (A)	Peak Load (A)	Regulation
+5V	6	7	±1.5%
+5VSB	1.5	2	±1.5%
+3.3V	6	8	±1.5%
-12V	0.05	0.1	±5.0%
+12V	12	14	±1.5%

Note: Forced air ventilation is required for operating at max load. For fanless or improper ventilation operation derate the output of the +12V, +5V, and +3.3V rails until PSU temperature falls below 65℃. Peak load should not exceed 60 seconds. Combined max power output should not exceed more than 200 Watts.

WIRE & CONNECTOR CONFIGURATION

Connector / Model	 Main Power (20P+4P) 0mm	 EPS 12V (4P+4P) 450mm	 PCI-E (6P+2P) 420mm	 SATA 400mm	 Peripheral (4P) 200mm	 FDD (4P)
Z4-ATX-220	1 (24P)	1	0	2	1	0

PROTECTION

Overload Protection

The power supply will be shutdown and latch off when load power over 110% ~ 160% of the rated DC output.

Over Current Protection

The power supply shall have current limit to prevent the +12V, +5V and +3.3V outputs from exceeding the values shown in the following table. If the current limits are exceeded the power supply shall shutdown and latch off.

Rail	Over Current Limit
+12V	14A min, 16A max
+5V	7A min, 9A max
+3.3V	8A min, 10A max

Over Voltage Protection

The microcontroller in the PSU monitors all output rails and provides over voltage protection as defined in the following table.

Rail	Min (V)	Norm (V)	Max (V)
+12V	13.4	15	15.6
+5V	5.74	6.3	7
+3.3V	3.76	4.2	4.3

Short Circuit Protection

An output short circuit is defined as any output impedance of less than 0.1 ohms. The power supply shall shut down and latch off for shorting the +3.3V, +5V, or +12V rails to return or any other rail.

No Load Operation

No damage or hazardous condition should occur with all the DC output connectors disconnected from the load. The PSU may latch into shutdown state.

ENVIRONMENT

Operation

Operating temperature from -10℃ to 70℃. Maximum output power falls off linearly as operating temperature increases from 40℃.

Shipping and Storage

Shipping and storage temperature from -40℃ to 80℃. Relative humidity to 95% non-condensing.

Altitude

Operating 10,000FT max. Storage 50,000FT max.

SAFETY & EMC

Safety Standards

RoHS Directive (2011/65/EU) and EU (2015/863).

EMC Emission

Electromagnetic Compatibility Directive (2014/30/EU).

OTHERS

MTBF

The demonstrated MTBF (mean time between failures) shall be 100,000 hours of continuous operation at 25℃ of full load at normal DC input. The MTBF of the power supply shall be calculated in accordance with MIL-HDBK-217F.

Dimension

61mm (L) x 33mm (W) x 20mm (H), excluding 24pin connector.

Weight

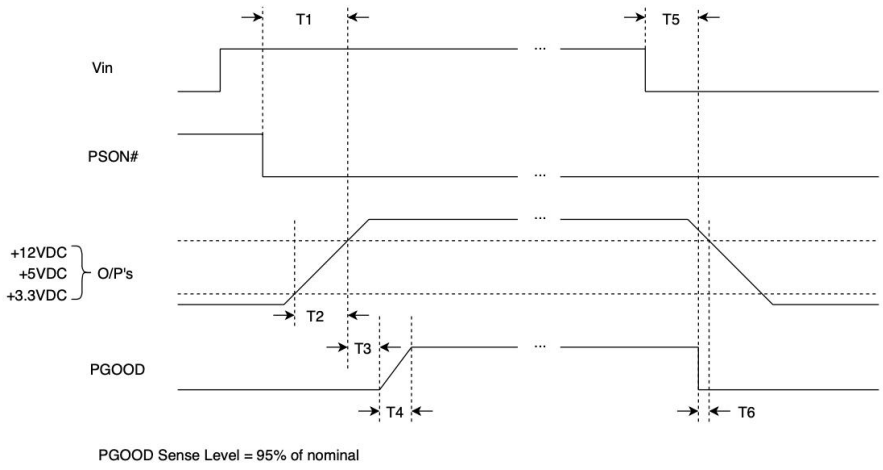
140 grams excluding output cables. 180 grams including output cables.

Package Content

One PSU, and one cable kit.

TIMING

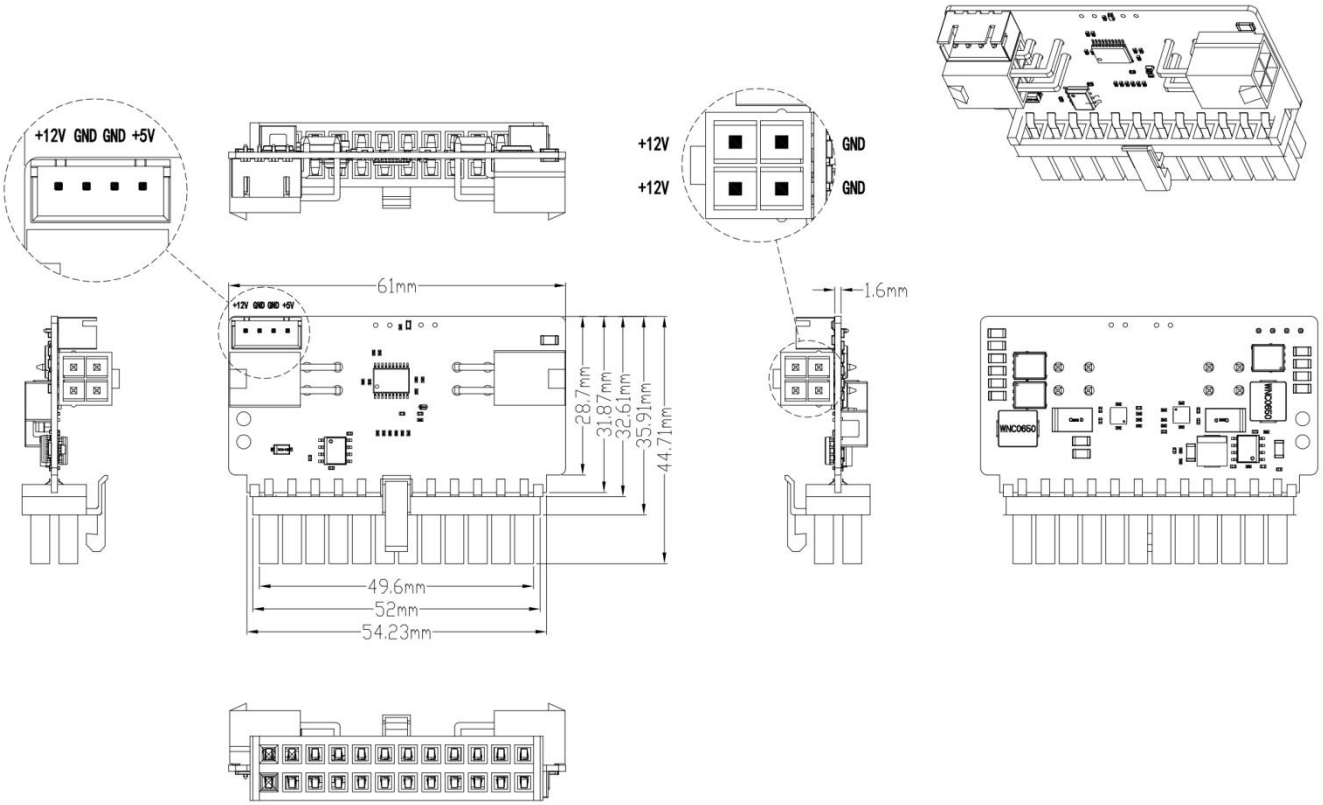
Compliance with Intel ATX specification version 2.01. Remote ON/OFF control: 1) When the logic level "PS-ON" is low, the DC outputs are to be enabled. 2) When the logic level is high or open collector, the DC outputs are to be disabled.



- T1: Power-on time. The time from when PSON# is pulled low to when the +12V, +5V and +3.3V outputs are within the regulation ranges. The power-on time shall be less than 500ms (T1 < 500ms)
- T2: Rise time. The output voltages shall rise from ≤10% of nominal to within the regulation ranges within 0.1 ms to 20 ms (0.1 ≤ T2 ≤ 20ms)
- T3: Power good signal turn on delay time (100 < T3 < 500ms)
- T4: Power good signal rise time (T4 ≤ 10ms)
- T5: Voltage input loss to PGOOD hold-up time (T5 ≥ 16ms)
- T6: Power down warning (T6 ≥ 1ms)

DIMENSION & IO DIAGRAM

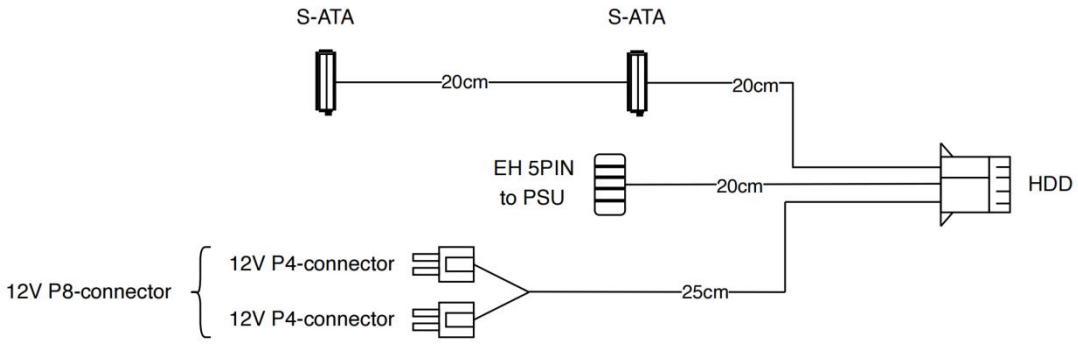
The on-board 24pin connector is the standard ATX power connector which can directly plugin to the 24pin ATX power connector on the motherboard.



CABLE DIAGRAM

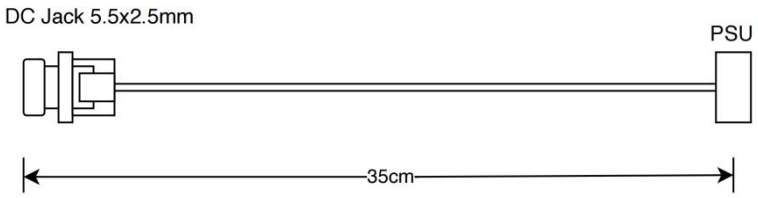
Output Cable

This output cable set is connected to the PSU via the EH 5pin connector.



Voltage Input Cable

The input cable has been soldered to the power supply. The DC receptacle with panel mount has Pin size of 5.5mm x 2.5mm. Internal is positive and external is negative.



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