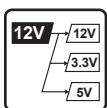




Introduction

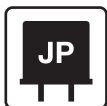
FSP Hydro X series power supplies are 80 PLUS Gold certified, unique ventilation hole design and built with premium components, to provide excellent cooling and quiet performance. With all Japan-made e-cap., they're providing extremely stability and reliability. Custom DC-DC module offers supreme efficiency and high system compatibility. FSP Hydro X series is a great choice for who is seeking for a PSU with high performance, low energy loss and high reliability.

Features



DC – DC Module Design

Provide supreme efficiency and voltage stability



100% Japan-made E-cap

Reliable power and prolonged life span

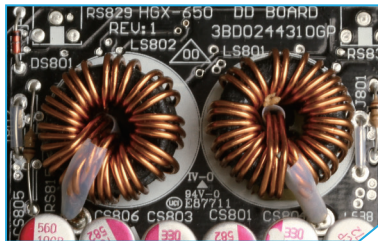


Ribbon Cable

Give any systems a neat and polished look (Black-sleeved cable for 24 pin)

- Unique product ID with stylish side sticker
- Advanced air-flow design in silent operation
- Complies with newest ATX12V & EPS12V standards
- 80PLUS® Gold certified
- High efficiency $\geq 90\%$
- Full Japan-made electrolytic capacitors
- Powerful single +12V rail design
- Ribbon cables for the need of enthusiasts and gamers
- SLI and Crossfire ready
- Complete protection: OCP, OVP, SCP, OPP, OTP
- Intel Skylake ready
- Global safety approved

Product Overview



DC – DC Module Design

Both of +3.3V and +5V DC-DC module combined +12V SR circuit offers supreme efficiency, voltage stability, and high system compatibility especially in cross regulation (unbalance load) mode.



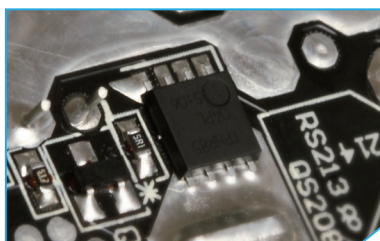
Extremely Tight Voltage Regulation

Custom VR (Variable Resistor) design to control the balanced point of +12V rail to make sure the output voltage regulation is under $\pm 1\%$ under any load change.



Hotcore Fan Control Design

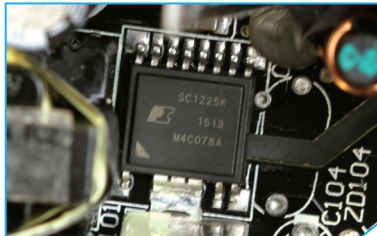
Hotcore Fan Control adjusts its speed precisely to provide optimal cooling which contributed to the thermometer to be designed into the hottest transformer and measure the hot core temperature on the first line.



Lower Power Consumption, Fewer Heat Emission

RDS (on) MOSFET is commonly used in electronics, and selected 2.8 ~ 1.4 mini-ohm grade. Hydro X is designed to use very low RDS (on) MOSFET, 0.85 mini-ohm for 550W / 650W and 1.2 mini-ohm for 450W PSU, which is different from others, to reduce power loss and cool down component for reliability.

Product Overview



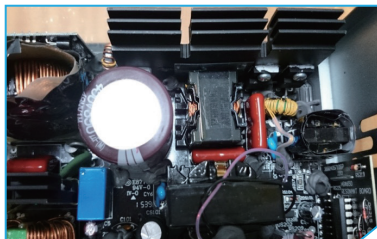
Eco-Minion IC Inside For Low Standby Power Consumption

The functions of PC is always powered by the +5Vsb rail when the PC is in sleep or idle modes. Eco-Minion Controller can enhance overall performance of +5Vsb and efficiency to reach about 82.5% compared to 75% in general when load is about 1A.



Custom Soft Start Design

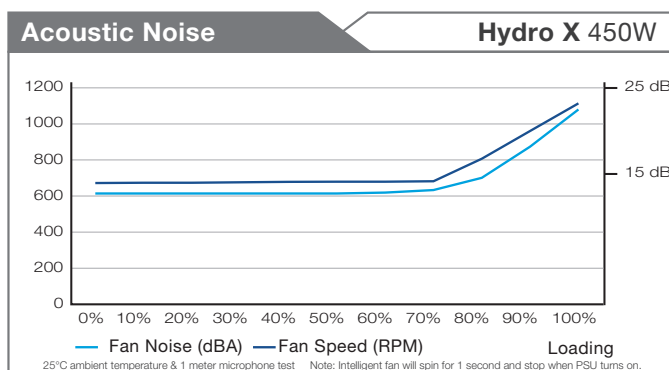
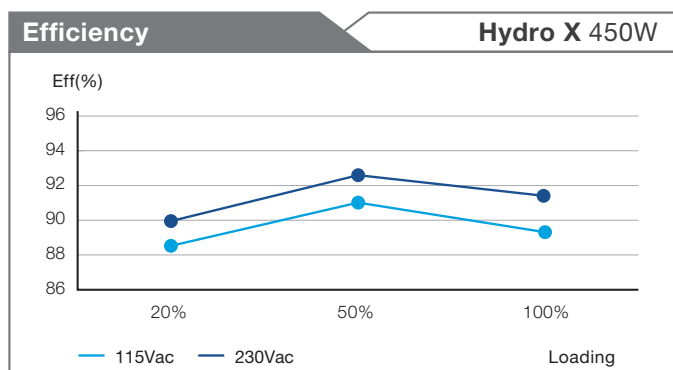
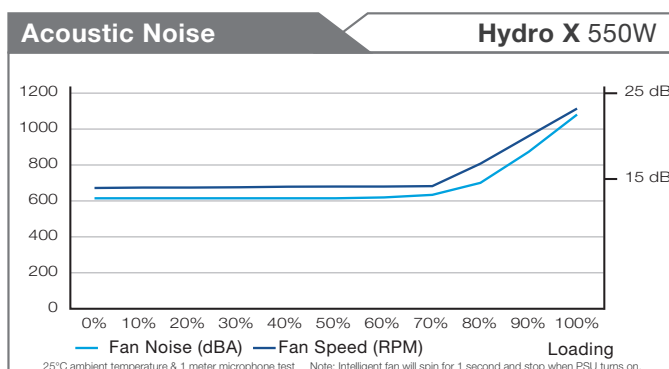
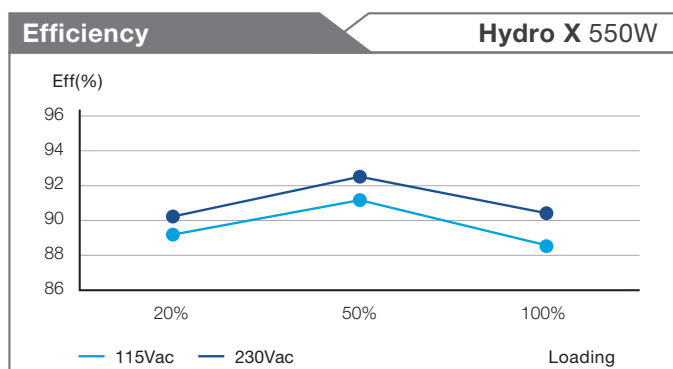
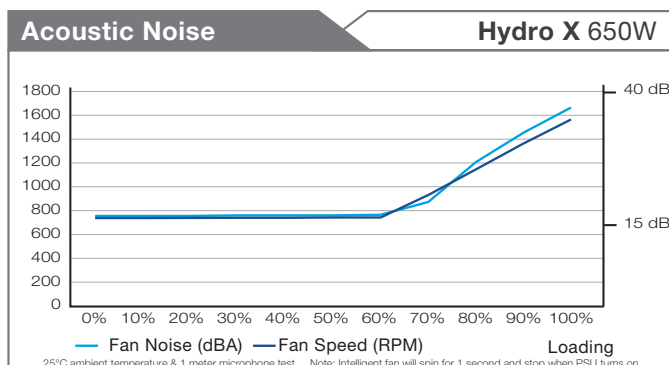
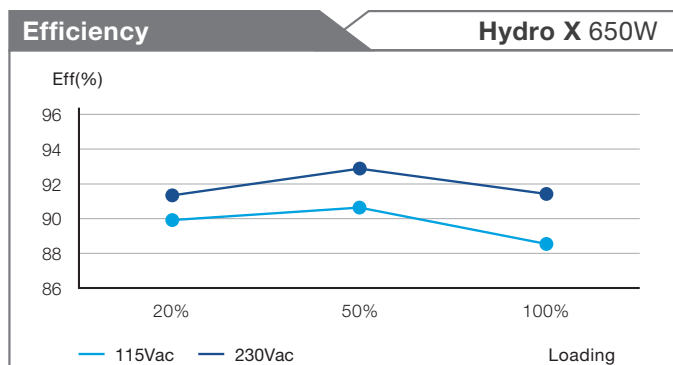
The inrush current may hurt PSU when powered on. Hydro X features with custom power guard design to restrain switch-on surge for keeping PSU in safe.



Power Conversion Optimization

Experienced design of shorter circuit among active PFC, LLC and secondary SR stages saves energy during power conversion and optimize EMI solution.

Performance



Rating

650W

AC Input	100-240V 10-5A 60-50Hz				
DC Output	+3.3V	+5V	+12V	-12V	+5Vsb
Max Output Current	20A	20A	54.16A	0.3A	2.5A
Max Combined Power	120W		650W	3.6W	12.5W
Total Power	650W (at 40°C)				




550W

AC Input	100-240Vac 10-5A 60-50Hz				
DC Output	+3.3V	+5V	+12V	-12V	+5Vsb
Max Output Current	20A	20A	45.83A	0.3A	2.5A
Max Combined Power	120W		550W	3.6W	12.5W
Total Power	550W (at 40°C)				

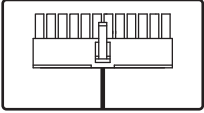
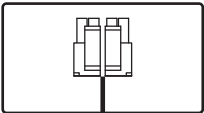
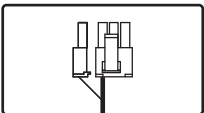

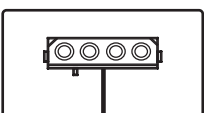
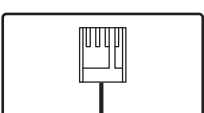
450W

AC Input	100-240Vac 8-4A 60-50Hz				
DC Output	+3.3V	+5V	+12V	-12V	+5Vsb
Max Output Current	20A	20A	37.50A	0.3A	2.5A
Max Combined Power	120W		450W	3.6W	12.5W
Total Power	450W (at 40°C)				

Specifications

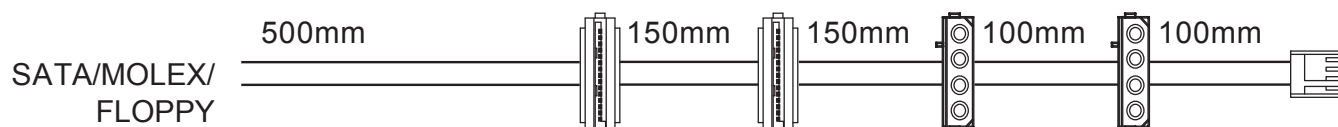
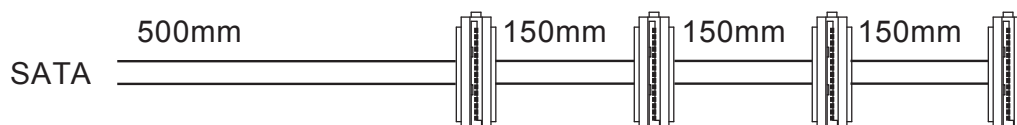
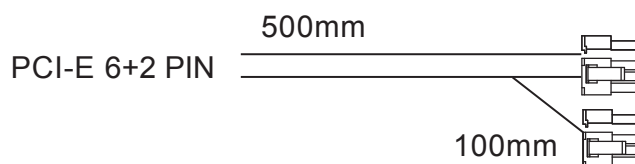
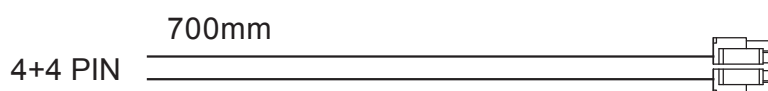
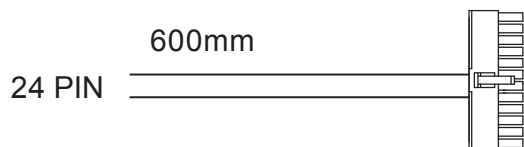
			
	450W	550W	650W
Model	HGX550	HGX550	HGX650
Type	ATX	ATX	ATX
PFC	Active PFC	Active PFC	Active PFC
Input Voltage	100V-240V	100V-240V	100V-240V
Input Current	4-8A	5-10A	5-10A
Input Frequency	50-60Hz	50-60Hz	50-60Hz
Output Capacity	450W	550W	650W
Max. Output Power	450W	550W	650W
Fan Type	Double ball bearing, 120mm	Double ball bearing, 120mm	Double ball bearing, 120mm
Efficiency	90%	90%	90%
MTBF	100,000 Hrs	100,000 Hrs	100,000 Hrs
Protection	OCP, OVP, SCP, OPP, OTP	OCP, OVP, SCP, OPP, OTP	OCP, OVP, SCP, OPP, OTP
Weight	kg	kg	kg
Dimension(L×W×H)	150 × 150 × 86 mm	150 × 150 × 86 mm	150 × 150 × 86 mm

Connectors

	450W	550W	650W
 24 PIN	1	1	1
 4+4 PIN	1	1	1
 6+2 PIN	2	4	4
 SATA	6	6	10
 MOLEX	2	2	2
 FLOPPY	1	1	1

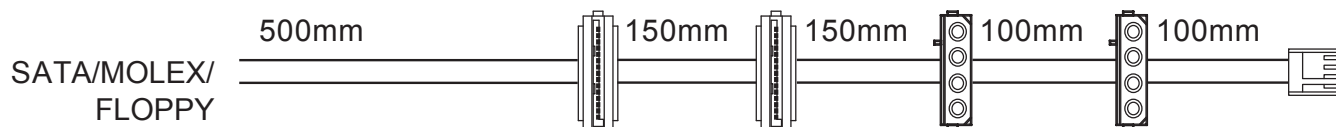
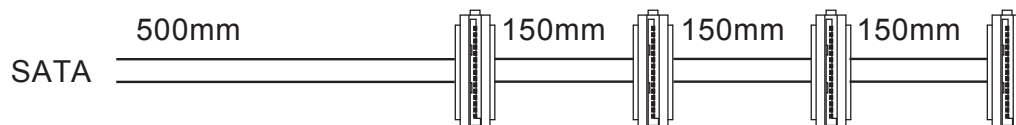
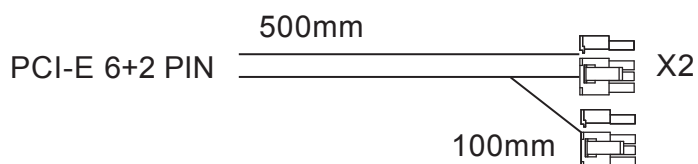
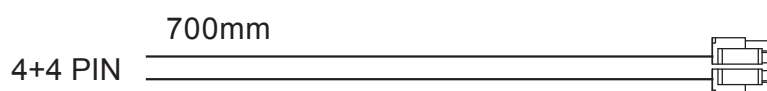
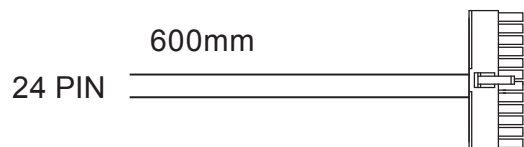
Cable Length

450W



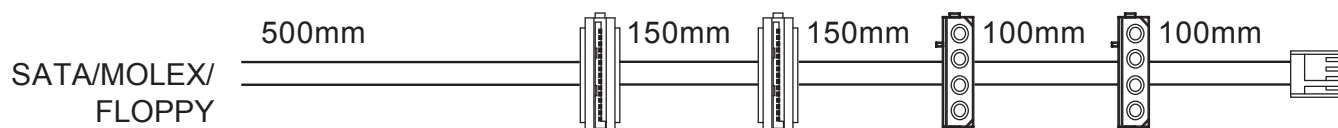
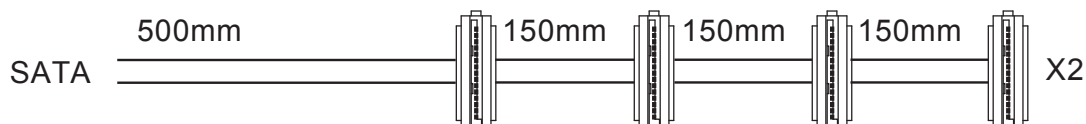
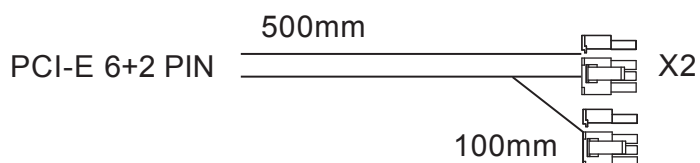
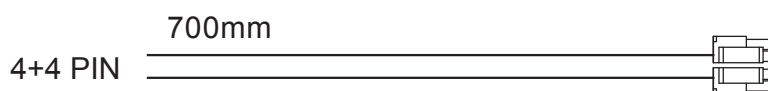
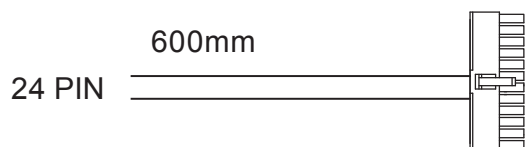
Cable Length

550W



Cable Length

650W





HYDRO X Series

450W / 550W / 650W

Package Information


Model	HGX450	HGX550	HGX650
EAN Code	471114048981 0	471114048982 7	471114048983 4
UPC Code	84568500832 9	84568500833 6	84568500834 3
Shipping Dimensions (L×W×H)	298 × 218 × 99 mm		
Shipping Weights	kg	kg	kg
Master Pack Dimension (L×W×H)	539 × 250 × 323 mm		
Master Pack Quantity	5 retail boxes per master package		
Master Pack Weight	kg	kg	kg
Pallet Quantity			
Country of Origin	China		
Warranty	5 Years		
Additional Information			



HYDRO X Series

450W / 550W / 650W

Media Review

Media	Award	Review Link
59 Hardware France		http://www.59hardware.net/articles/alimentations/alimentation-fsp-hydro-x-550-2016031417823/4.html