1. Product Introduction

Nfortec RGB series power supply offers “Value and Performance” scheme. The most suitable cost/performance ratio is the best choice for system builder. 12V CPU power and modern PCIe 6+2pin connectors are ready for high-end gaming system. Fully electrical protection and official safety are also the quality promise by Gamemax.

RGB MODES OPERATION INSTRUCTIONS:

1. With memory function, turn on power supply again; the initial state is as same as the state of power off.
2. Press RGB controller switch successively, the lights change to be white, blue, yellow, red, green, blue green, purple, breathing lights and color mix mode in turn.
3. Breathing lights mode: make the lights bright gradually in two seconds, make the lights dim gradually in two seconds, play cycle from white color to purple color.
4. Color mix mode: the lights change from white to purple color in turn and keep 0.5S at peak of each color; it takes 4S between the two colors.
5. In any mode, press the RGB controller switch for three seconds, the lights go out.

2. Features

- Compatible with ATX12V 2.3.1.
- High-end SECC black coating casing.
- High-Efficiency – 90+ Certified.
- Low Noise 14cm RGB Fan with intelligent fan speed control.
- Honeycomb ventilation design for optimal heat dissipation.
- High-end VGA card support with modern PCIe 6+2pin connector.
- Powerful single +12V rails offer stable DC output and support high-end graphic card and PC system.
- Long cable length at least 500mm supports high-end case with “Bottom” PSU position.
- Active Power Factor rate up to 0.9.
- Green power design that meets ErP requirements.
- Low ripple noise.
- OPP/OVP/UVP/SCP/OCP electrical protection included.
- Safety / EMI Approvals: CE, FCC, GOST, CB , EAC .
- RGB Ring Fan on top, RGB Gamemax logo on the side surface, the lights is coming from the top and side

3. AC Input and DC Output Specification

MODULAR POWER SUPPLY ATX12V ACTIVE PFC					
VAC Input	100-240V~ 10-5A 47-63Hz				
VDC Output	+3.3V	+5V	+12V	-12V	+5VSB
Current	20A	20A	52A	0.5A	2.5A
Max.Output Wattage	100W		624W	6W	12.5W
	650W				

MODULAR POWER SUPPLY ATX12V ACTIVE PFC					
VAC Input	100-240V~ 10-5A 47-63Hz				
VDC Output	+3.3V	+5V	+12V	-12V	+5VSB
Current	20A	20A	60A	0.5A	2.5A
Max.Output Wattage	100W		720W	6W	12.5W
	750W				

MODULAR POWER SUPPLY ATX12V ACTIVE PFC					
VAC Input	100-240V~ 12-6A 47-63Hz				
VDC Output	+3.3V	+5V	+12V	-12V	+5VSB
Current	20A	20A	70A	0.5A	2.5A
Max.Output Wattage	100W		840W	6W	12.5W
	850W				

MODULAR POWER SUPPLY ATX12V ACTIVE PFC					
VAC Input	100-240V~ 15-8A 47-63Hz				
VDC Output	+3.3V	+5V	+12V	-12V	+5VSB
Current	25A	25A	82A	0.5A	2.5A
Max.Output Wattage	125W		984W	6W	12.5W
	1050W				

4. Output Voltage Regulation

Output Voltage	MIN	Nominal	MAX	Units	Range
+5V	4.75	5.00	5.25	Volts	± 5%
+12V	11.40	12.00	12.60	Volts	± 5%
-12V	-10.80	-12.00	-13.20	Volts	± 10%
+3.3V	3.14	3.30	3.47	Volts	± 5%
+5Vsb	4.75	5.00	5.25	Volts	± 5%

5. DC Output Ripple & Noise

Parameter	Ripple + Noise	Units
+5V	50	mV
+12V	120	mV
+12V	120	mV
-12V	120	mV
+3.3V	50	mV
+5Vsb	50	mV

6. Efficiency versus Load

RGB-550/850/1050 Efficiency			
Loading	100%	50%	20%
Efficiency	87%	90%	87%
PFC	≧0.9	≧0.9	--

7. Output Protection

7.1 Over Voltage Protection

The +5V/+12V/+3.3V DC output are protected against the over voltage condition. Maximum value can't be over 6.5V at 5V terminal and 15.5V at 12V, 4.3V at 3.3V.

7.2 Over Power Protection

The power supply will be shutdown and latch off when output power is 110%~150%.

7.3 Under voltage protection

In an under voltage fault occurs, the supply will latch all DC outputs into a shutdown state when +12V,+5V & +3.3V outputs under 60% of it's maximum value.

7.4 Short Circuit Protection

Short circuit placed on +5V,+12V,+3.3V,-12V will latch off. +5VSB will auto-recovery.

7.5 Over-Current Protection

Current protection should be designed to limit the current to operate within safe operating conditions.
The setting of over current protection for each output rail is as page3.

8. Environmental Requirements

8.1 Operating / Storage Temperature Range

Operating ambient : 0℃ min to +40℃ max   Non operating ambient : -20℃ to +60℃

8.2 Humidity (non condensing)

Operating ambient : 10% to 90% relative humidity   Non operating ambient : 5% to 95% relative humidity

8.3 Altitude

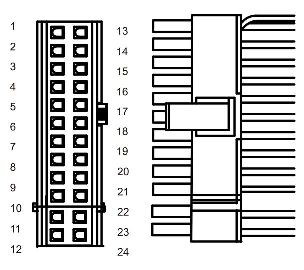
Operating ambient : 0 to 10,000 ft   Non operating ambient : 0 to 50,000 ft

9. Safety Certificate

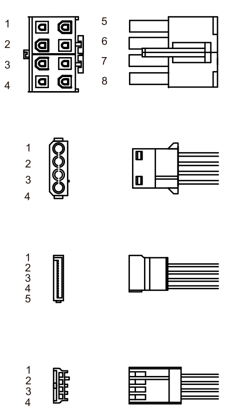
Certificate	Mark	Description
CB	CB	Global Certification by IECEE
CE	CE	Certification Europe
FCC	FC	Federal Communication Commission
GOST	UA.TR.011	Ukraine Certification
EAC	EAC	Таможенного союза

10. Output Connectors / Pin Description

The output connector pin assignments should follow the arrangements as shown in the table below.



Main Power Connector					
Pin	Signal	Wire	Pin	Signal	Wire
1	+3.3VDC	Orange	13	+3.3VDC [+3.3V sense]	Orange [Brown]
2	+3.3VDC	Orange	14	-12VDC	Blue
3	COM	Black	15	COM	Black
4	+5VDC	Red	16	PS_ON#	Green
5	COM	Black	17	COM	Black
6	+5VDC	Red	18	COM	Black
7	COM	Black	19	COM	Black
8	PWR_OK	Gray	20	Reserved	NC
9	+5VSB	Purple	21	+5VDC	Red
10	+12VDC	Yellow	22	+5VDC	Red
11	+12VDC	Yellow	23	+5VDC	Red
12	+3.3VDC	Orange	24	COM	Black

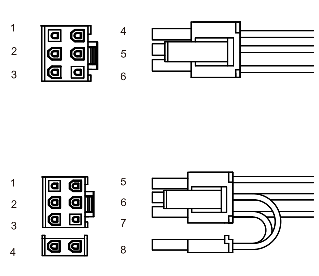


+12V Power Connector					
Pin	Signal	Wire	Pin	Signal	Wire
1	COM	Black	5	+12VDC	Yellow
2	COM	Black	6	+12VDC	Yellow
3	COM	Black	7	+12VDC	Yellow
4	COM	Black	8	+12VDC	Yellow

Peripheral Connector(s)		
Pin	Signal	Wire
1	+5VDC	Red
2	COM	Black
3	COM	Black
4	+12VDC	Yellow

Series ATA Connector					
Pin	Signal	Wire	Pin	Signal	Wire
1			4	COM	Black
2	COM	Black	5	12V	Yellow
3	+5V	RED	-	-	-

Peripheral Connector(s)		
Pin	Signal	Wire
1	+5VDC	Red
2	COM	Black
3	COM	Black
4	+12VDC	Yellow

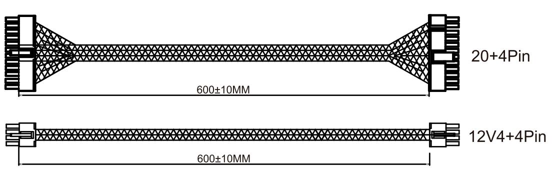


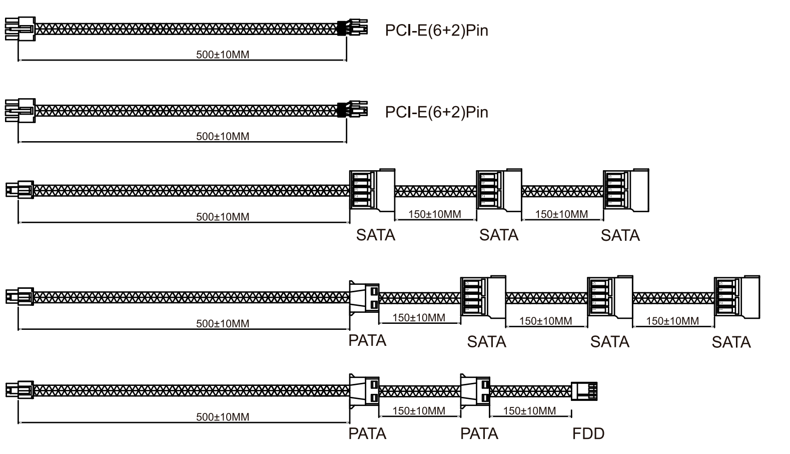
PCI-E 6pin Power Connector					
Pin	Signal	Wire	Pin	Signal	Wire
1	+12VDC	Yellow	4	COM	Black
2	+12VDC	Yellow	5	COM	Black
3	+12VDC	Yellow	6	COM	Black

Peripheral Connector(s)			Floppy Drive Connector		
Pin	Signal	Wire	Pin	Signal	Wire
1	+12VDC	Yellow	1	COM	Black
2	+12VDC	Yellow	2	COM	Black
3	+12VDC	Yellow	3	COM	Black
4	COM	Black	4	COM	Black

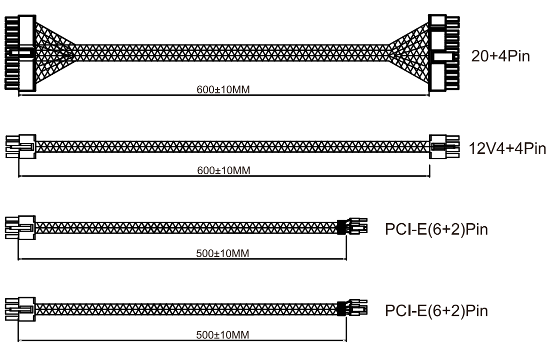
CONNECTOR	MAIN CONNECTOR	CPU CONNECTOR	PERIPHERAL CONNECTOR	S-ATA CONNECTOR	PCI-E CONNECTOR	FDD CONNECTOR
PIIN	24(20+4)Pins	8(4+4)Pins	4Pins	5Pins	8(6+2)Pins	4Pins
650W	1	1	3	6	2	1
750W	1	1	3	8	2	1
850W	1	2	3	10	4	1
1050W	1	2	3	10	4	1

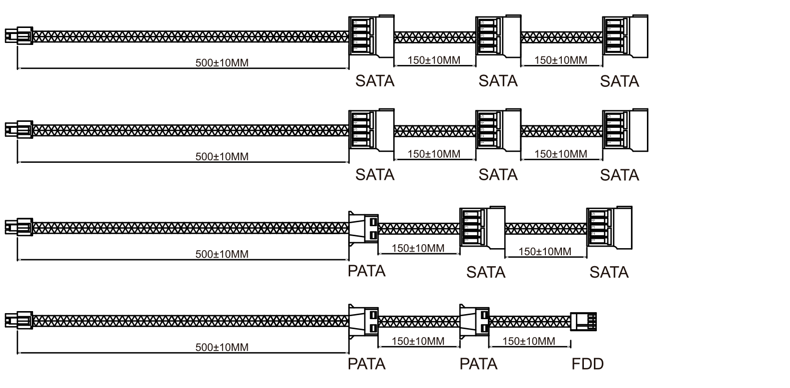
650W Wire drawing



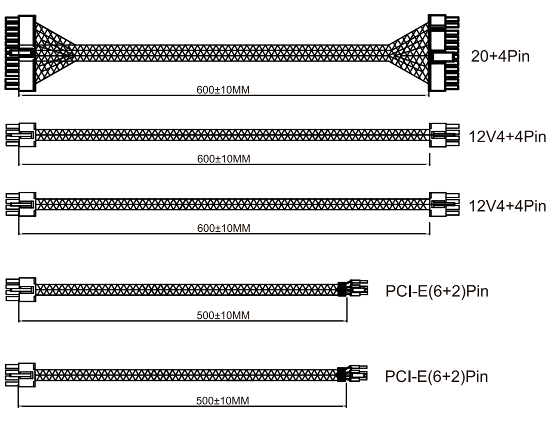


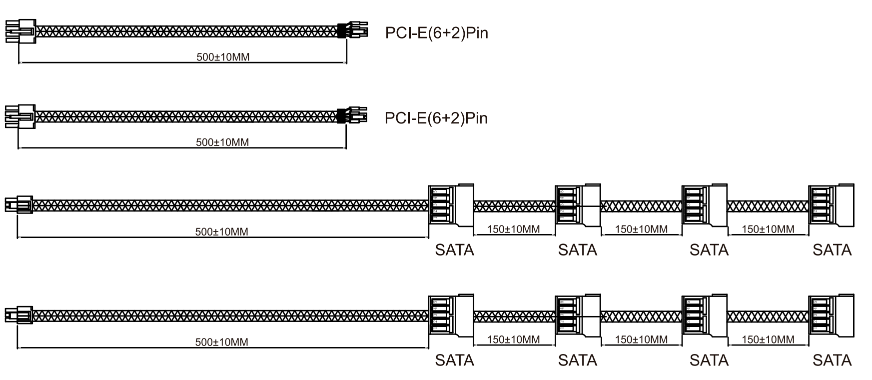
750W Wire drawing

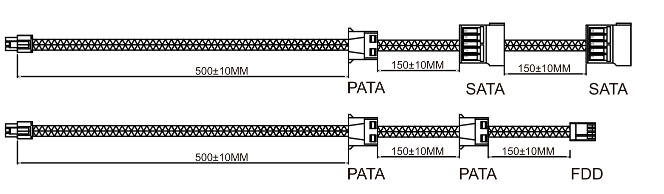




850W Wire drawing







1050W Wire drawing