



## PB SERIES

### FEATURES

- Design meet IEC 60601-1 & IEC 62368-1
- Meet intel x86 platform requirement
- Meet 80PLUS GOLD efficiency
- Meet EN 55011 class B emission
- BF class isolation

### SAFETY STANDARD APPROVAL



### DESCRIPTION

This series of AC/DC switching power supplies in a standard ATX form factor 165 x 150 x 86 mm is capable of delivering 600 or 700 watts of continuous power. PSU build-in DC/DC converter at +3.3V and +5V output rails to enhance load regulation. High-efficiency design complies with 80PLUS GOLD efficiency.

### INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current:	
FSP600M-70PB	7 A (rms) @115Vac, 60Hz 3.5 A (rms) @ 230Vac, 50Hz
FSP700M-70PB	8A (rms) @115Vac, 60Hz 4 A (rms) @ 230Vac, 50Hz
Earth leakage current:	300 $\mu$ Amax. @ 264 VAC, 63 Hz

### OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart.
Maxi. output power:	See rating chart.
Ripple and noise:	See rating chart.
Protection	
Overvoltage	+3.3V, +5V & +12V, Latch off
Overcurrent	+3.3V, +5V & +12V, Latch off
Overtemperature	+3.3V, +5V & +12V, Latch off +5Vsb, -12V, -5V, Auto-recovery

### ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	0°C to +50°C
Storage temperature:	-20°C to +80°C
Relative humidity:	10% to 95% non-condensing
Derating:	Derate from 100% at +50°C linearly to 50% at +70°C

### GENERAL SPECIFICATIONS

Turn-on delay time	2 Sec maxi.
Power factor:	0.9 mini. @ 20% load mini.
Efficiency:	80PLUS GOLD (87%, 90%, 87%)
Hold-up time:	17 mS minimum at 115VAC & 230VAC
Line regulation:	$\pm$ 1% maximum at full load
Inrush current:	50 A @ 115 VAC at 25°C cold start 100 A @ 230 VAC at 25°C cold start
Withstand voltage:	4000 VAC from input to output (2 MOPP) 1500 VAC from input to ground (1 MOPP) 1500 VAC from output to ground
MTBF:	150,000 hours at full load & 25°C ambient, calculated per MIL-HDBK- 217
EMC Performance (IEC60601-1-2)	
EN55011:/ EN55032	Class B conducted, Class B radiated
FCC / VCCI:	Class B conducted, Class B radiated
EN61000-3-2:	Harmonic distortion, Class A
EN61000-3-3:	Line flicker
EN61000-4-2:	ESD, $\pm$ 15 KV air and $\pm$ 8 KV contact
EN61000-4-3:	Radiated immunity, 9-28 V/m
EN61000-4-4:	Fast transient/burst, $\pm$ 2 KV
EN61000-4-5:	Surge, $\pm$ 1 KV diff., $\pm$ 2 KV com.
EN61000-4-6:	Conducted immunity, 3-6 Vrms
EN61000-4-8:	Magnetic field immunity, 30 A/m
EN61000-4-11:	Voltage dip immunity, 30% reduction for 500 ms, 60% reduction for 100 ms >95% reduction for 10 ms

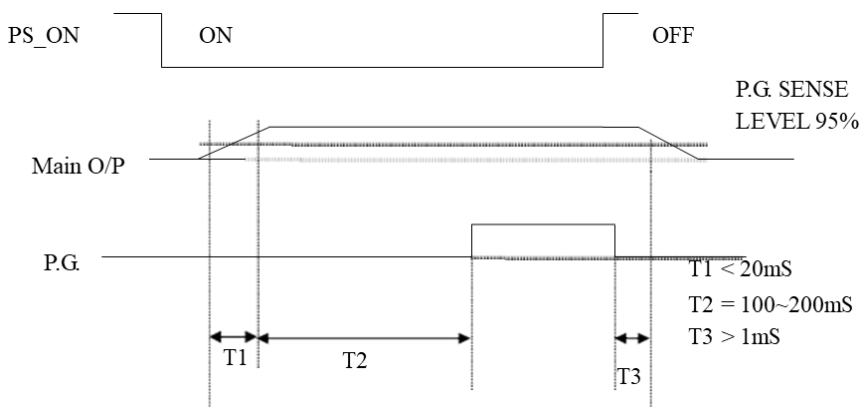
## OUTPUT VOLTAGE/CURRENT RATING CHART

Rating Outputs	FSP600M-70PB		FSP700M-70PB		Load Regulation	Ripple & Noise <sup>2</sup>
	Mini. Load	Maxi. Load	Mini. Load	Maxi. Load		
+3.3 V	0 A	24 A	0 A	24 A	±5%	50 mV P-P
+5 V	0 A	30 A	0 A	30 A	±5%	50 mV P-P
+12 V1	0.1 A	25 A peak 30 A	0.1 A	30 A peak 35 A	±5%	120 mV P-P
+12 V2	0.2 A	25 A peak 30 A	0.2 A	30 A peak 35 A	±5%	120 mV P-P
-5 V <sup>1</sup>	0 A	0.2 A	0 A	0.2 A	±10%	100 mV P-P
-12 V	0 A	0.5 A	0 A	0.5 A	±10%	120 mV P-P
+5 Vsb	0.05 A	3.0 A	0.05 A	3.0 A	±5%	50 mV P-P
+3.3 V & +5 V Combine Output Power	150W Maxi.		150W Maxi.			
+12V Total Output Power Maxi. / Peak <sup>3</sup>	50A Maxi. / 660W peak		58A Maxi. / 780W peak			
Total Output Power	600W		700W			

### NOTES:

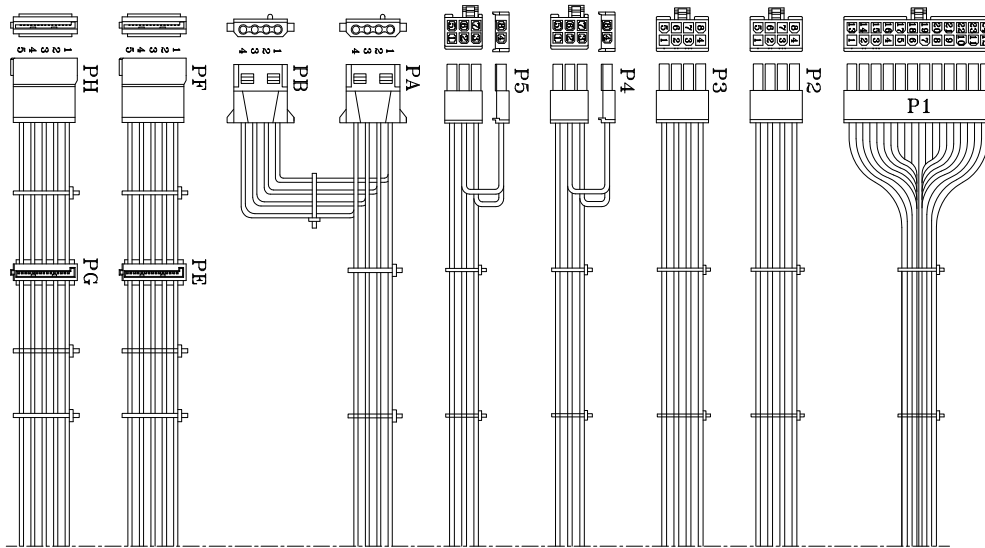
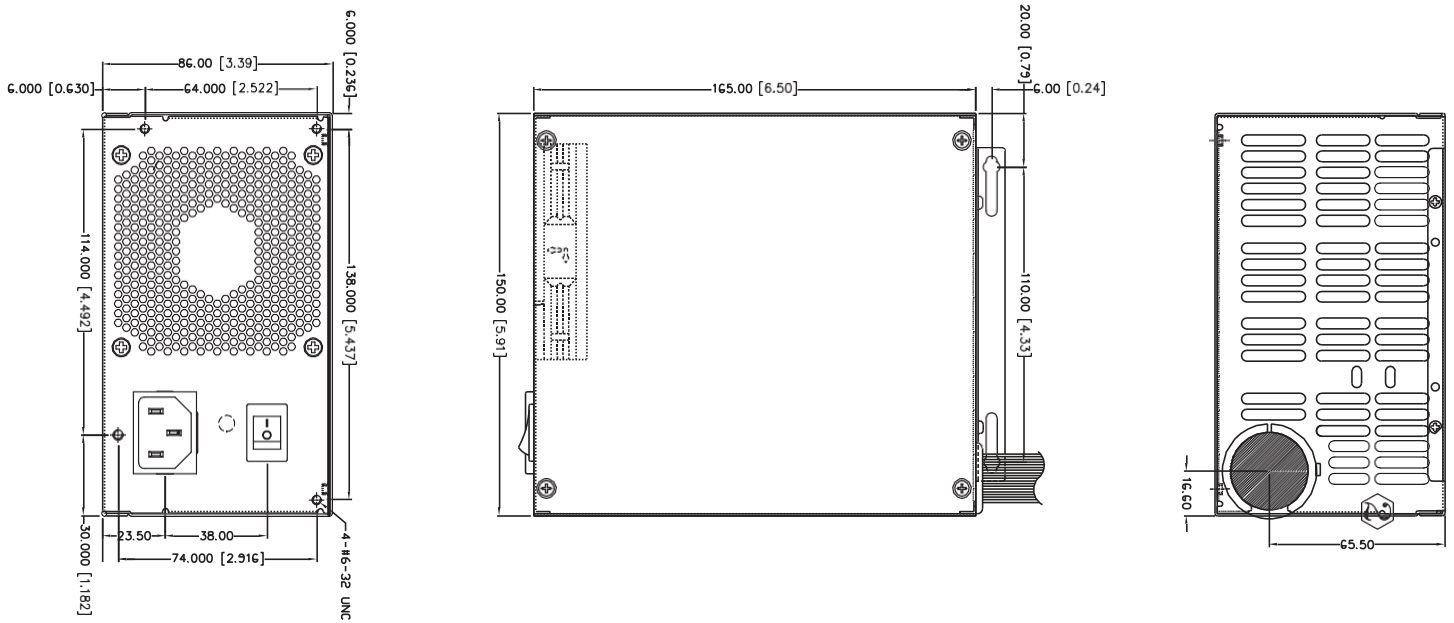
- 5V is not for standard model but upon request.
- Ripple and noise measurements shall be made under all specified load conditions through a single pole low pass filter with 20MHz cutoff frequency. Outputs shall bypassed at the connector with a 0.1uF ceramic disk capacitor and a 10uF electrolytic capacitor to simulate system loading.
- The duration of peak power is less than 10 mS.

## INTERFACE SIGNALS



- T1 : RISE TIME < 20 mS
- T2 : POWER GOOD DELAY TIME 100 ~ 500 mS
- T3 : POWER FAIL DELAY TIME > 1 mS

## MECHANICAL SPECIFICATIONS



Output connectors	Cable Length	Connector No.	Output connectors (equivalent)
Mother board 24 pin	500 mm	P1	MOLEX 39-01-2240
CPU 8 pin	500 mm * 2	P2, P3	MOLEX 39-01-2080
PCI-e 6+2 pin	350 mm * 2	P4, P5	WST P8-I42002, K21B-B
SATA	(500+155 mm) * 2	PE+PF, PG+PH	MOLEX SD-67926-0011, MOLEX SD-67582-0011
PATA	500+155 mm	PA+PB	WST P4-A10202

Weight: 2.32 Kg