



200W Quad Output with PFC Function

QP-200 series



■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- CH1,2 can be adjustable from -5~+10%
- With power good and fail signal output(Optional)
- Built-in remote sense function for CH1,2
- 100% full load burn-in test
- CH4 can set to positive after consult us before delivery(Optional)
- Fixed switching frequency at PFC:67KHz PWM:134KHz
- 3 years warranty



SPECIFICATION

MODEL		QP-200D				QP-200F				QP-200-3A			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4
	DC VOLTAGE	5V	12V	24V	-12V	5V	15V	24V	-15V	5V	3.3V	12V	-5V
	RATED CURRENT	15A	4A	3A	0.7A	15A	3A	3A	0.7A	15A	15A	6A	0.7A
	CURRENT RANGE	3 ~ 20A	0 ~ 6A	0.4 ~ 5A	0 ~ 1A	3 ~ 20A	0 ~ 5A	0.4 ~ 5A	0 ~ 1A	3 ~ 20A	0 ~ 20A	0.5 ~ 8A	0 ~ 1A
	RATED POWER	203.4W				202.5W				200W			
	PEAK CURRENT <small>Note.4</small>	20A	7A	6A	1A	20A	6A	6A	1A	20A	20A	8A	1A
	RIPPLE & NOISE (max.) <small>Note.2</small>	100mVp-p	150mVp-p	150mVp-p	150mVp-p	100mVp-p	150mVp-p	150mVp-p	150mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V		CH2: 11.4 ~ 13.2V		CH1: 4.75 ~ 5.5V		CH2: 14.25 ~ 16.5V		CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V	
	VOLTAGE TOLERANCE <small>Note.3</small>	±3.0%	±3.0%	+10,-6%	±6.0%	±3.0%	±3.0%	+10,-6%	±6.0%	±3.0%	±3.0%	+8,-10%	±6.0%
	LINE REGULATION	±1.0%	±1.0%	±2.0%	±1.0%	±1.0%	±1.0%	±2.0%	±1.0%	±1.0%	±1.0%	±2.0%	±1.0%
	LOAD REGULATION	±2.0%	±2.0%	±6.0%	±2.0%	±2.0%	±2.0%	±6.0%	±2.0%	±2.0%	±2.0%	±6.0%	±2.0%
	SETUP, RISE TIME	800ms, 50ms at full load											
	HOLD UP TIME (Typ.)	24ms at full load											
INPUT	VOLTAGE RANGE <small>Note.6</small>	90 ~ 264VAC		127 ~ 370VDC									
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR (Typ.)	PF>0.95/230VAC				PF>0.98/115VAC at full load							
	EFFICIENCY (Typ.)	75%				75%				72%			
	AC CURRENT (Typ.)	3.5A/115VAC		2A/230VAC									
	INRUSH CURRENT (Typ.)	COLD START 30A											
	LEAKAGE CURRENT	<2mA / 240VAC											
PROTECTION	OVERLOAD	105 ~ 150% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed											
	OVER VOLTAGE	CH1:5.75 ~ 6.75V		CH2:13.8 ~ 16.2V		CH1: 5.75 ~ 6.75V		CH2:17.25 ~ 20.25V		CH1:5.75 ~ 6.75V		CH2:3.8 ~ 4.4V	
	OVER TEMPERATURE	95°C ±5°C (TSW1) detect on heatsink of Q1, Q2 power transistor Protection type : Shut down o/p voltage, recovers automatically after temperature goes down											
FUNCTION	POWER GOOD / POWER FAIL(OPTIONAL)	10ms/1ms											
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)											
	WORKING HUMIDITY	20 ~ 90% RH non-condensing											
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH											
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)											
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes											
SAFETY & EMC <small>(Note 5)</small>	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved											
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC		I/P-FG:1.5KVAC		O/P-FG:0.5KVAC							
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC											
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B											
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3											
EMM IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A												
OTHERS	MTBF	160.6K hrs min. MIL-HDBK-217F (25°C)											
	DIMENSION	215*115*50mm (L*W*H)											
	PACKING	1.2Kg; 12pcs/15.4Kg/0.92CUFT											
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. 33.3% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power. 5. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 6. Derating may be needed under low input voltages. Please check the derating curve for more details. 												



200W Quad Output with PFC Function

QP-200 series



■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- CH1,2 can be adjustable from -5~+10%
- With power good and fail signal output(Optional)
- Built-in remote sense function for CH1,2
- 100% full load burn-in test
- CH4 can set to positive after consult us before delivery(Optional)
- Fixed switching frequency at PFC:67KHz PWM:134KHz
- 3 years warranty



SPECIFICATION

MODEL		QP-200-3B				QP-200-3C				QP-200-3D			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4
	DC VOLTAGE	5V	3.3V	12V	-12V	5V	3.3V	15V	-15V	5V	3.3V	24V	-12V
	RATED CURRENT	15A	15A	6A	0.7A	15A	15A	5A	0.7A	10A	15A	4A	0.7A
	CURRENT RANGE	3 ~ 20A	0 ~ 20A	0.5 ~ 8A	0 ~ 1A	3 ~ 20A	0 ~ 20A	0.5 ~ 6A	0 ~ 1A	3 ~ 15A	0 ~ 20A	0.4 ~ 5A	0 ~ 1A
	RATED POWER	204.9W				210W				203.9W			
	PEAK CURRENT <small>Note.4</small>	20A	20A	8A	1A	20A	20A	7A	1A	20A	20A	6A	1A
	RIPPLE & NOISE (max.) <small>Note.2</small>	100mVp-p	100mVp-p	150mVp-p	150mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V		CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V		CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V	
	VOLTAGE TOLERANCE <small>Note.3</small>	±3.0%	±3.0%	+8,-10%	±6.0%	±3.0%	±3.0%	+10,-6%	±6.0%	±3.0%	±3.0%	+10,-6%	±6.0%
	LINE REGULATION	±1.0%	±1.0%	±2.0%	±1.0%	±1.0%	±1.0%	±2.0%	±1.0%	±1.0%	±1.0%	±2.0%	±1.0%
	LOAD REGULATION	±2.0%	±2.0%	±6.0%	±2.0%	±2.0%	±2.0%	±6.0%	±2.0%	±2.0%	±2.0%	±6.0%	±2.0%
	SETUP, RISE TIME	800ms, 50ms at full load											
HOLD UP TIME (Typ.)	24ms at full load												
INPUT	VOLTAGE RANGE <small>Note.6</small>	90 ~ 264VAC		127 ~ 370VDC									
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR (Typ.)	PF>0.95/230VAC		PF>0.98/115VAC at full load									
	EFFICIENCY (Typ.)	72%				72%				74%			
	AC CURRENT (Typ.)	3.5A/115VAC		2A/230VAC									
	INRUSH CURRENT (Typ.)	COLD START 30A											
	LEAKAGE CURRENT	<2mA / 240VAC											
PROTECTION	OVERLOAD	105 ~ 150% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed											
	OVER VOLTAGE	CH1:5.75 ~ 6.75V		CH2:3.8 ~ 4.4V Protection type : Shut down o/p voltage, re-power on to recover									
	OVER TEMPERATURE	95°C ±5°C (TSW1) detect on heatsink of Q1,Q2 power transistor Protection type : Shut down o/p voltage, recovers automatically after temperature goes down											
FUNCTION	POWER GOOD / POWER FAIL(OPTIONAL)	10ms/1ms											
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)											
	WORKING HUMIDITY	20 ~ 90% RH non-condensing											
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH											
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)											
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes											
SAFETY & EMC <small>(Note 4)</small>	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved											
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC		I/P-FG:1.5KVAC		O/P-FG:0.5KVAC							
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC											
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B											
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3											
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A											
OTHERS	MTBF	160.6K hrs min. MIL-HDBK-217F (25°C)											
	DIMENSION	215*115*50mm (L*W*H)											
	PACKING	1.2Kg; 12pcs/15.4Kg/0.92CUFT											
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. 33.3% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power. 5. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 6. Derating may be needed under low input voltages. Please check the derating curve for more details. 												



200W Quad Output with PFC Function

QP-200 series



■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- CH1,2 can be adjustable from -5~+10%
- With power good and fail signal output(Optional)
- Built-in remote sense function for CH1,2
- 100% full load burn-in test
- CH4 can set to positive after consult us before delivery(Optional)
- Fixed switching frequency at PFC:67KHz PWM:134KHz
- 3 years warranty



SPECIFICATION

MODEL		QP-200-3E			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4
	DC VOLTAGE	5V	3.3V	24V	-15V
	RATED CURRENT	10A	15A	4A	0.7A
	CURRENT RANGE	3 ~ 15A	0 ~ 20A	0.4 ~ 5A	0 ~ 1A
	RATED POWER	206W			
	PEAK CURRENT <small>Note.4</small>	20A	20A	6A	1A
	RIPPLE & NOISE (max.) <small>Note.2</small>	100mVp-p		150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V CH2: 3.14 ~ 3.63V			
	VOLTAGE TOLERANCE <small>Note.3</small>	±3.0%		+10,-6%	±6.0%
	LINE REGULATION	±1.0%		±2.0%	±1.0%
	LOAD REGULATION	±2.0%		±6.0%	±2.0%
	SETUP, RISE TIME	800ms, 50ms at full load			
	HOLD TIME (Typ.)	24ms at full load			
INPUT	VOLTAGE RANGE <small>Note.6</small>	90 ~ 264VAC 127 ~ 370VDC			
	FREQUENCY RANGE	47 ~ 63Hz			
	POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.98/115VAC at full load			
	EFFICIENCY (Typ.)	74%			
	AC CURRENT (Typ.)	3.5A/115VAC 2A/230VAC			
	INRUSH CURRENT (Typ.)	COLD START 30A			
	LEAKAGE CURRENT	<2mA / 240VAC			
PROTECTION	OVERLOAD	105 ~ 150% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed			
	OVER VOLTAGE	CH1:5.75 ~ 6.75V CH2:3.8 ~ 4.4V Protection type : Shut down o/p voltage, re-power on to recover			
	OVER TEMPERATURE	95°C ±5°C (TSW1) detect on heatsink of Q1,Q2 power transistor Protection type : Shut down o/p voltage, recovers automatically after temperature goes down			
FUNCTION	POWER GOOD / POWER FAIL(OPTIONAL)	10ms/1ms			
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)			
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes			
SAFETY & EMC <small>(Note 5)</small>	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved			
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC			
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC			
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B			
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3			
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A			
	MTBF	160.6K hrs min. MIL-HDBK-217F (25°C)			
	DIMENSION	215*115*50mm (L*W*H)			
	PACKING	1.2Kg; 12pcs/15.4Kg/0.92CUFT			
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. 33.3% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power. 5. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 6. Derating may be needed under low input voltages. Please check the derating curve for more details. 				

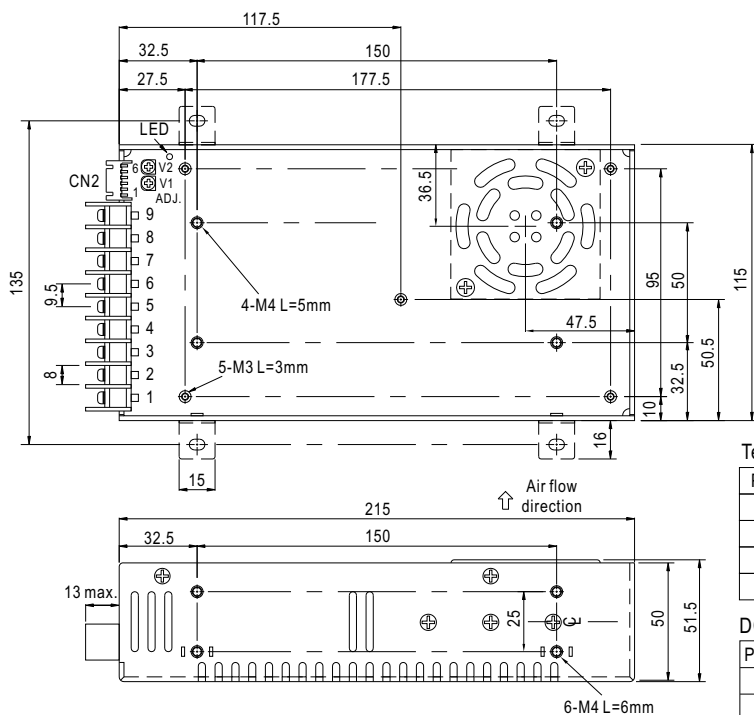


200W Quad Output with PFC Function

QP-200 series

Mechanical Specification

Case No. 912B Unit:mm



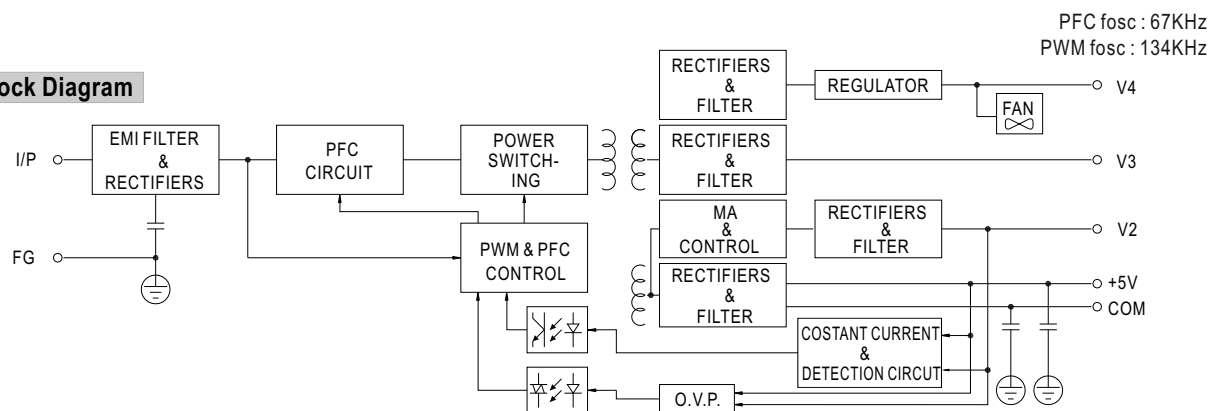
Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5	DC OUTPUT V3
2	AC/N	6	DC OUTPUT V1
3	FG	7,8	DC OUTPUT COM
4	DC OUTPUT V4	9	DC OUTPUT V2

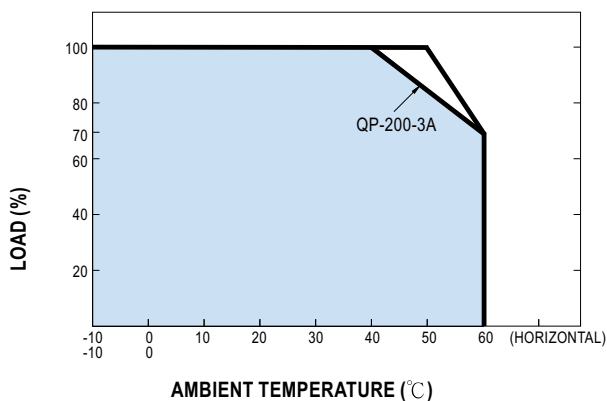
DC Output Connector (CN2) : JST S6B-XH-A-1 or equivalent

Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	V1(+S)	4	V2(-S)	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2	V1(-S)	5	PF/PG		
3	V2(+S)	6	GND		

Block Diagram



Derating Curve



Output Derating VS Input Voltage

