

SPECIFICATION

MODEL



QP-200D

CH₂

CH₃

CH4

CH₁

Features:

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections:Short circuit/Over load/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

CH₃

- 100% full load burn-in test
- CH4 can set to positive after consult us before delivery

CH4

• Fixed switching frequency at PFC:67KHz PWM:134KHz(Optional)

QP-200-3A

CH₁

· 3 years warranty

CH₂

QP-200F



CH3

CH4

OUTPUT NUMBER CH1 CH₂ DC VOLTAGE 5V 12V 24V 15V 24V -15V 5V 3.3V -12V 5V 12V -5V RATED CURRENT 15A 4A 3A 0.7A 0.7A 0.7A 15A 3A 3A 15A 15A 6A 0 ~ 1A **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 RATED POWER 203.4W 202.5W 200W PEAK CURRENT 20A 20A 20A 20A 7A 6A 1A 6A 6A 1A A8 1A Note 4 **OUTPUT** RIPPLE & NOISE (max.) Note.2 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 Note.3** ±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% ±2.0% ±2.0% ±2.0% ±6.0% ±2.0% ±2.0% ±2.0% +6.0% ±2.0% ±6.0% SETUP, RISE TIME 800ms, 50ms at full load HOLD TIME (Typ.) 24ms at full load **VOLTAGE RANGE** Note.6 90 ~ 264VAC 127 ~ 370VDC 47 ~ 63Hz **FREQUENCY RANGE** PF>0.98/115VAC at full load POWER FACTOR (Typ.) PF>0.95/230VAC **INPUT EFFICIENCY (Typ.)** 75% 72% 3.5A/115VAC 2A/230VAC AC CURRENT (Typ.) **INRUSH CURRENT (Typ.) COLD START 30A LEAKAGE CURRENT** <2mA / 240VAC 105 ~ 150% rated output power **OVER LOAD** Protection type: Constant current limiting, recovers automatically after fault condition is removed CH2:17.25 ~ 20.25V CH1:5.75 ~ 6.75V CH2:3.8 ~ 4.4V CH2:13.8 ~ 16.2V | CH1: 5.75 ~ 6.75V CH1:5 75 ~ 6 75V **PROTECTION OVER VOLTAGE** Protection type: Shut down o/p voltage, re-power on to recover 95°C ±5°C (TSW1) Detect on heatsink of Q1,Q2 power transistor **OVER TEMPERATURE** Protection type: Shut down o/p voltage, recovers automatically after temperature goes down FUNCTION | POWER GOOD / POWER FAIL (OPTIONAL) 10ms/1ms -10 ~ +60°C (Refer to output load derating curve) WORKING TEMP. 20 ~ 90% RH non-condensing WORKING HUMIDITY -20 ~ +85°C, 10 ~ 95% RH **ENVIRONMENT** STORAGE TEMP., HUMIDITY **TEMP. COEFFICIENT** ±0.03%/°C (0~50°C) 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes VIBRATION 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 I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC ISOLATION RESISTANCE SAFFTY & **EMC EMI CONDUCTION & RADIATION** Compliance to EN55022 (CISPR22) Class B (Note 5) HARMONIC CURRENT

NOTE

OTHERS

EMS IMMUNITY

DIMENSION

MTBF

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.

MIL-HDBK-217F (25°C)

- 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 uf & 47 uf parallel capacitor.
- 3. Tolerance: includes set up tolerance, line regulation and load regulation.

160.6K hrs min.

230*115*50mm (L*W*H) 1.2Kg; 12pcs/15.4Kg/0.92CUFT

- 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 **FMC** directives

Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A

6. Derating may be needed under low input voltages. Please check the derating curve for more details.

Compliance to EN61000-3-2,-3



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Features:

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections:Short circuit/Over load/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
- Fixed switching frequency at PFC:67KHz PWM:134KHz(Optional)
- 3 years warranty



MODEL		QP-200-3B				QP-200-3C			QP-200-3D				
	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 Note.4	20A	20A	8A	1A	20A	20A	7A	1A	20A	20A	6A	1A
OUTPUT	RIPPLE & NOISE (max.) Note.2	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	4 ~ 3.63V	CH1: 4.75	~ 5.5V	CH2: 3.14	1 ~ 3.63V	CH1: 4.75	~ 5.5V	CH2: 3.14	1 ~ 3.63V
	VOLTAGE TOLERANCE Note.3	±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 TIME (Typ.)	24ms at full load											
	VOLTAGE RANGE Note.6	90 ~ 264VAC 127 ~ 370VDC											
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR (Typ.)	PF>0.95/2	30VAC	PF>0.98/	115VAC at	full load							
INPUT	EFFICIENCY (Typ.)	72%	72% 74%										
	AC CURRENT (Typ.)	3.5A/115VAC 2A/230VAC											
	INRUSH CURRENT (Typ.)	COLD START 30A											
	LEAKAGE CURRENT	<2mA / 240VAC											
	0//50 / 0 4 0	105 ~ 150% rated output power											
	OVER LOAD	Protection type: Constant current limiting, recovers automatically after fault condition is removed											
DDOTECTION	OVERVOLENCE	CH1:5.75 ~ 6.75V CH2:3.8 ~ 4.4V											
PROTECTION	OVER VOLTAGE	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)												
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		∵ (0~50°C)										
VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes													
	SAFETY STANDARDS			60950-1 Ap									
	WITHSTAND VOLTAGE	I/P-O/P:3	KVAC I/F	P-FG:1.5KV	/AC O/P-	FG:0.5KVA	.C						
SAFETY &	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC											
EMC	EMI CONDUCTION & RADIATION				R22) Class	В							
(Note 4)	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											
	MTBF	160.6K hrs min. MIL-HDBK-217F (25℃)											
OTHERS	DIMENSION	230*115*50mm (L*W*H)											
	PACKING	1.2Kg; 12pcs/15.4Kg/0.92CUFT											
NOTE		ers NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. ise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.											

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- 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.



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- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections:Short circuit/Over load/Over voltage/Over temperature
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- CH1,2 can be adjustable from -5~+10%
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- Built-in remote sense function for CH1,2
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- 3 years warranty



MODEL QP-200-3E **OUTPUT NUMBER** CH1 CH₂ CH₃ CH4 DC VOLTAGE 5V 24V -15V 3.3V RATED CURRENT 10A 15A 4A 0.7A 0.4 ~ 5A **CURRENT RANGE** 3 ~ 15A 0 ~ 20A 0 ~ 1A RATED POWER 206W PEAK CURRENT 20A 20A 6A 1A Note 4 **OUTPUT** RIPPLE & NOISE (max.) Note.2 100mVp-p 100mVp-p 150mVp-p 150mVp-p **VOLTAGE ADJ. RANGE** CH1: 4.75 ~ 5.5V CH2: 3.14 ~ 3.63V **VOLTAGE TOLERANCE Note.3** +3.0% ±3.0% +10,-6% ±6.0% LINE REGULATION ±1.0% ±1.0% ±2.0% ±1.0% LOAD REGULATION ±2.0% ±2.0% ±6.0% ±2.0% 800ms, 50ms at full load SETUP, RISE TIME HOLD TIME (Typ.) 24ms at full load 90 ~ 264VAC **VOLTAGE RANGE** 127 ~ 370VDC Note 6 **FREQUENCY RANGE** 47 ~ 63Hz POWER FACTOR (Typ.) PF>0.95/230VAC PF>0.98/115VAC at full load 74% **INPUT EFFICIENCY (Typ.)** 3 5A/115VAC 2A/230VAC AC CURRENT (Typ.) **INRUSH CURRENT (Typ.) COLD START 30A LEAKAGE CURRENT** <2mA / 240VAC 105 ~ 150% rated output power OVER LOAD Protection type: Constant current limiting, recovers automatically after fault condition is removed CH1:5.75 ~ 6.75V CH2:3.8 ~ 4.4V **OVER VOLTAGE PROTECTION** Protection type: Shut down o/p voltage, re-power on to recover $95^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (TSW1) Detect on heatsink of Q1,Q2 power transistor **OVER TEMPERATURE** Protection type: Shut down o/p voltage, recovers automatically after temperature goes down FUNCTION | POWER GOOD / POWER FAIL (OPTIONAL) 10ms/1ms -10 ~ +60°C (Refer to output load derating curve) WORKING TEMP. 20 ~ 90% RH non-condensing WORKING HUMIDITY -20 ~ +85°C, 10 ~ 95% RH ENVIRONMENT STORAGE TEMP., HUMIDITY **TEMP. COEFFICIENT** ±0.03%/°C (0~50°C) VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes 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 SAFETY & **EMI CONDUCTION & RADIATION** Compliance to EN55022 (CISPR22) Class B **EMC** (Note 5) 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 MTBF 160.6K hrs min. MIL-HDBK-217F (25°C) **OTHERS DIMENSION** 230*115*50mm (L*W*H) 1.2Kg; 12pcs/15.4Kg/0.92CUFT **PACKING**

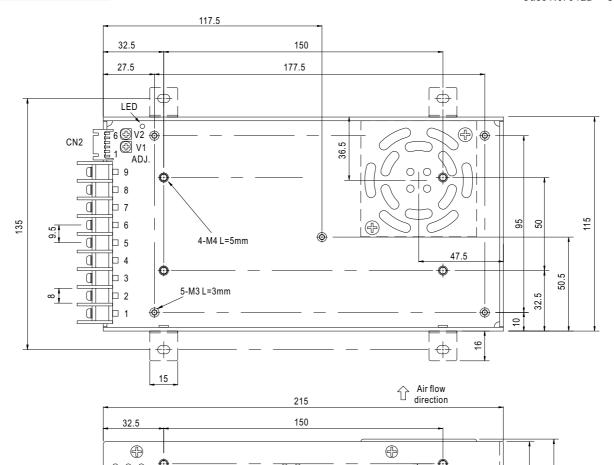
NOTE

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■ Mechanical Specification

Case No. 912B Unit:mm



4-M4 L=6mm

Terminal pin number assignment :

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

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

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

■ Derating Curve

100 80 70 60 40 20 -10 0 0 10 20 30 40 50 60 (HORIZONTAL)

AMBIENT TEMPERATURE (°C)

■ Output Derating VS Input Voltage

25

