



E-Star Power Development Co., Ltd. (E-STAR)  
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 22069, Taiwan (R.O.C.)  
 Phone : 886-2-2957 5580 Fax : 886-2-2957 7473

**150W Enclosed type Quad output power supply > QP-150**



- Features :
- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Over load / Over voltage
- Forced air cooling by built-in DC fan
- CH4:±Polarity is selectable
- Fixed switching frequency at 100KHz
- 3 years warranty



**SPECIFICATION**

MODEL		QP-150-3A				QP-150-3B				QP-150-3C			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4
	DC VOLTAGE	5V	3.3V	12V	-5V	5V	3.3V	12V	-12V	5V	3.3V	15V	-15V
	RATED CURRENT	10A	10A	5A	0.6A	10A	10A	5A	0.6A	10A	10A	4A	0.6A
	CURRENT RANGE	3 ~ 15A	0 ~ 15A	0.4 ~ 5A	0 ~ 1A	3 ~ 15A	0 ~ 15A	0.4 ~ 5A	0 ~ 1A	3 ~ 15A	0 ~ 15A	0.4 ~ 5A	0 ~ 1A
	RATED POWER (max.)	146W				150.2W				152W			
	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 ~ 3.63V		CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V		CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V	
	VOLTAGE TOLERANCE Note.3	±3.0%	±3.0%	±6.0%	±5.0%	±3.0%	±3.0%	±6.0%	±5.0%	±3.0%	±3.0%	+8,-6%	±5.0%
	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/230VAC				1800ms, 50ms/115VAC at full load								
HOLD UP TIME (Typ.)	24ms/230VAC		24ms/115VAC at full load										
INPUT	VOLTAGE RANGE	90 ~ 264VAC		127 ~ 370VDC									
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR (Typ.)	PF>0.95/230VAC		PF>0.98/115VAC at full load									
	EFFICIENCY (Typ.)	73%				75%				74%			
	AC CURRENT (Typ.)	2.5A/115VAC		1.2A/230VAC									
	INRUSH CURRENT (Typ.)	COLD START ≤40A/230V											
LEAKAGE CURRENT	<3.5mA / 240VAC												
PROTECTION	OVERLOAD	105 ~ 150% rated output power Protection type : Hiccup mode, 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(OPTION)	Shut down o/p voltage, recovers automatically after temperature goes down											
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to "Derating Curve")											
	WORKING HUMIDITY	20 ~ 90% RH non-condensing											
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH non-condensing											
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)											
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes											
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1, EAC TP TC 004 approved											
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC											
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH											
	EMC EMISSION	Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020											
OTHERS	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A, EAC TP TC 020											
	MTBF	141.5K hrs min. MIL-HDBK-217F (25°C)											
	DIMENSION	199*99*50mm (L*W*H)											
NOTE	PACKING	0.93Kg; 20pcs/19.6Kg/1.21CUFT											
		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. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." 5. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).											



**150W Enclosed type Quad output power supply > QP-150**



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- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage
- Forced air cooling by built-in DC fan
- CH4:±Polarity is selectable
- Fixed switching frequency at 100KHz
- 3 years warranty



**SPECIFICATION**

MODEL		QP-150-3D				QP-150D				QP-150F			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4
	DC VOLTAGE	5V	3.3V	24V	-12V	5V	12V	24V	-12V	5V	15V	24V	-15V
	RATED CURRENT	10A	10A	2.5A	0.6A	10A	4A	2A	0.6A	10A	3A	2A	0.6A
	CURRENT RANGE	3 ~ 15A	0 ~ 15A	0.3 ~ 3A	0 ~ 1A	3 ~ 15A	0 ~ 5A	0.4 ~ 3A	0 ~ 1A	3 ~ 15A	0 ~ 5A	0.4 ~ 3A	0 ~ 1A
	RATED POWER (max.)	150.2W				153.2W				152W			
	RIPPLE & NOISE (max.) Note.2	100mVp-p	100mVp-p	150mVp-p	150mVp-p	120mVp-p	150mVp-p	200mVp-p	150mVp-p	120mVp-p	150mVp-p	200mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V		CH1: 4.75 ~ 5.5V		CH2: 11.4 ~ 13.2V		CH1: 4.75 ~ 5.5V		CH2: 14.3 ~ 16.5V	
	VOLTAGE TOLERANCE Note.3	±3.0%	±3.0%	±6.0%	±5.0%	±3.0%	±3.0%	±6.0%	±5.0%	±3.0%	±3.0%	±6.0%	±5.0%
	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/230VAC				1800ms, 50ms/115VAC at full load								
HOLD UP TIME (Typ.)	24ms/230VAC		24ms/115VAC at full load										
INPUT	VOLTAGE RANGE	90 ~ 264VAC		127 ~ 370VDC									
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR (Typ.)	PF>0.95/230VAC		PF>0.98/115VAC at full load									
	EFFICIENCY (Typ.)	76%				78%				78%			
	AC CURRENT (Typ.)	2.5A/115VAC		1.2A/230VAC									
	INRUSH CURRENT (Typ.)	COLD START ≤40A/230V											
	LEAKAGE CURRENT	<3.5mA / 240VAC											
PROTECTION	OVERLOAD	105 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed											
	OVER VOLTAGE	CH1:5.75 ~ 6.75V		CH2:3.8 ~ 4.4V		CH1:5.75 ~ 6.75V		CH2:13.8 ~ 16.2V		CH1:5.75 ~ 6.75V		CH2:17.25 ~ 20.25V	
	OVER TEMPERATURE(OPTION)	Shut down o/p voltage, recovers automatically after temperature goes down											
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to "Derating Curve")											
	WORKING HUMIDITY	20 ~ 90% RH non-condensing											
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH non-condensing											
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)											
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes											
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1, EAC TP TC 004 approved											
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC											
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH											
	EMC EMISSION	Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020											
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A, EAC TP TC 020											
OTHERS	MTBF	141.5K hrs min. MIL-HDBK-217F (25°C)											
	DIMENSION	199*99*50mm (L*W*H)											
	PACKING	0.93Kg; 20pcs/19.6Kg/1.21CUFT											
NOTE	<ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."</li> <li>5. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li> </ol>												



E-Star Power Development Co., Ltd. (E-STAR)

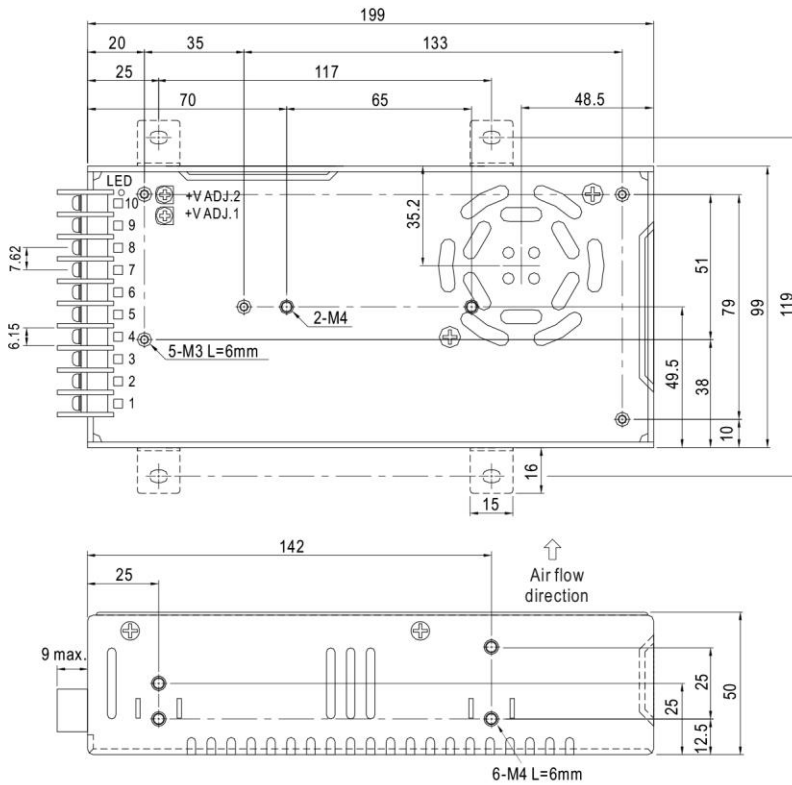
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**150W Enclosed type Quad output power supply > QP-150**

**Mechanical Specification**

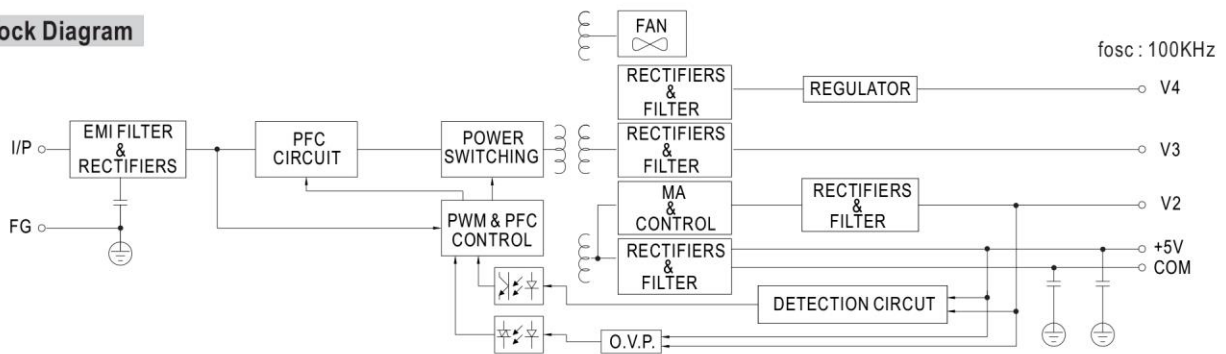
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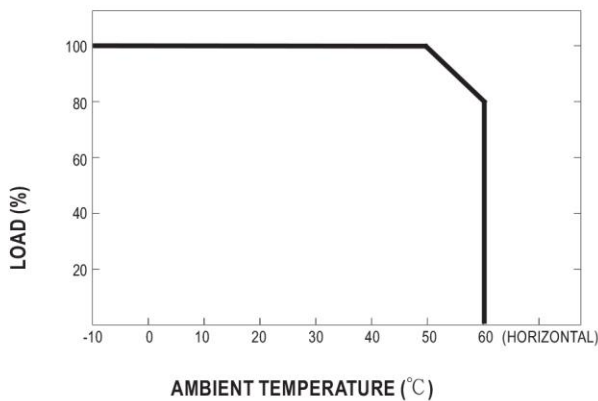
Terminal Pin No. Assignment :

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5	DC OUTPUT V3
2	AC/N	6,7	DC OUTPUT V1
3	FG $\perp$	8,9	DC OUTPUT COM
4	DC OUTPUT V4	10	DC OUTPUT V2

**Block Diagram**



**Derating Curve**



**Output Derating VS Input Voltage**

