



# 150W U-Bracket Single Output with PFC Function

# ULP-150 series



### ■ Features :

- Universal AC input / Full range(up to 295VAC)
- Built in active PFC compliance to EN61000-3-2 class C
- Constant Voltage design
- High efficiency up to 93%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- U-bracket low profile:33mm
- ZVS technology to reduce power dissipation
- 3 years warranty

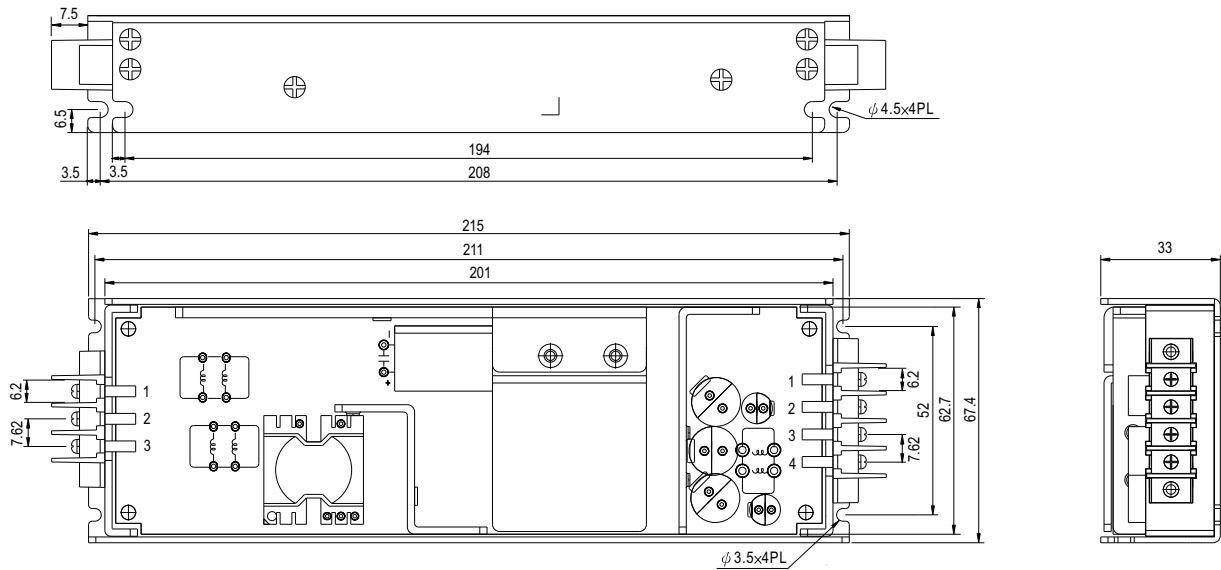


### SPECIFICATION

MODEL	ULP-150-12	ULP-150-15	ULP-150-24	ULP-150-36	ULP-150-48	
OUTPUT	DC VOLTAGE	12V	15V	24V	36V	48V
	RATED CURRENT	12.5A	10A	6.3A	4.2A	3.2A
	CURRENT RANGE	0 ~ 12.5A	0 ~ 10A	0 ~ 6.3A	0 ~ 4.2A	0 ~ 3.2A
	RATED POWER	150W	150W	151.2W	151.2W	153.6W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	150mVp-p	150mVp-p	250mVp-p	250mVp-p
	VOLTAGE ADJ. RANGE	11.0~13.2V	13.5~16.5V	21.6~26.4V	32.4~39.6V	43.2~52.8V
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	2000ms, 100ms/230VAC      3000ms, 100ms/115VAC at full load				
HOLD UP TIME (Typ.)	16ms/230VAC      16ms/115VAC at full load					
INPUT	VOLTAGE RANGE Note.4	90 ~ 295VAC      127 ~ 417VDC				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR (Typ.)	PF ≅ 0.96/230VAC      PF ≅ 0.98/115VAC      PF ≅ 0.94/277VAC at full load; PF ≅ 0.9/230VAC at 50%~100% load				
	EFFICIENCY (Typ.)	91.5%	91.5%	93%	93%	93%
	AC CURRENT (Typ.)	2A/115VAC      1A/230VAC				
	INRUSH CURRENT (Typ.)	Cold start 65A/230VAC				
	LEAKAGE CURRENT	<0.75mA/ 277VAC				
PROTECTION	OVERLOAD	145~185% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	SHORT CIRCUIT	Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE	13.6 ~ 16.3V	17 ~ 21V	26.7 ~ 32.4V	41.4 ~ 48.6V	53 ~ 64.8V
		Protection type : Shut down o/p voltage with auto-recovery or re-power on to recovery				
	OVER TEMPERATURE	95°C±5°C (RTH2) Protection type : Shut down o/p voltage, recovers automatically after temperature goes down				
ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to output load derating curve)				
	WORKING HUMIDITY	20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH				
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 60°C)				
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes				
SAFETY & EMC (Note 5)	SAFETY STANDARDS	EN61347-1,EN61347-2-13,IEC61347-1,IEC61347-2-13,UL8750 approved				
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC      I/P-FG:1.88KVAC      O/P-FG:0.5KVAC				
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC/25°C / 70%RH				
	EMI CONDUCTION & RADIATION	Compliance to EN55015,EN55022 (CISPR22) Class B				
	HARMONIC CURRENT	Compliance to EN61000-3-2,CLASS C(≅ 60% load),EN61000-3-3				
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61547, EN55024, light industry level (surge 4KV), criteria A				
OTHERS	MTBF	216.3K hrs min.      MIL-HDBK-217F (25°C)				
	DIMENSION	215*67.4*33mm (L*W*H)				
	PACKING	0.67kg; 24PCS/17.5kg/0.65CUFT				
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. Derating may be needed under low input voltages. Please check the static characteristics for more details.</li> <li>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.</li> </ol>					

■ Mechanical Specification

Case No. 988 Unit:mm



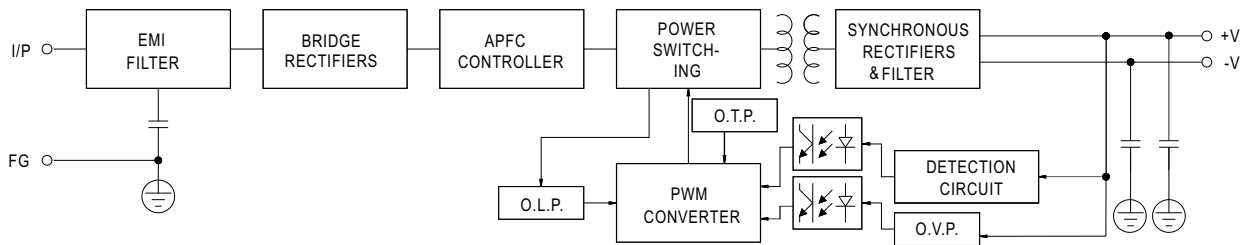
AC Terminal pin NO. Assignment

Pin No.	Assignment	Terminal
1	FG	DECA T31-C032033702
2	AC/L	
3	AC/N	

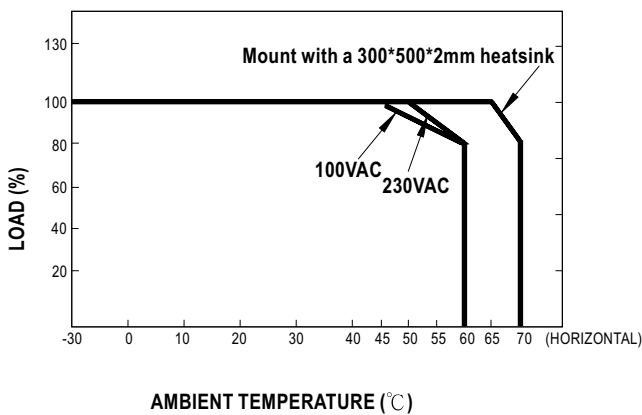
DC Terminal pin NO. Assignment

Pin No.	Assignment	Terminal
1	V-	DECA T31-C032043702
2	V-	
3	V+	
4	V+	

■ Block Diagram



■ Derating Curve



■ Static Characteristics

