



**FEATURES**

- 90~264 VAC Universal Input
- Active PFC with PF up to 0.99
- 3" x 5" Open PCB or U-Bracket
- 1.36" (Open PCB) or 1.57" (U-Bracket) Low Profile
- 3.3V to 48V Flexible DC Output Combination
- Over-Temperature Protection



**ELECTRICAL SPECIFICATIONS**

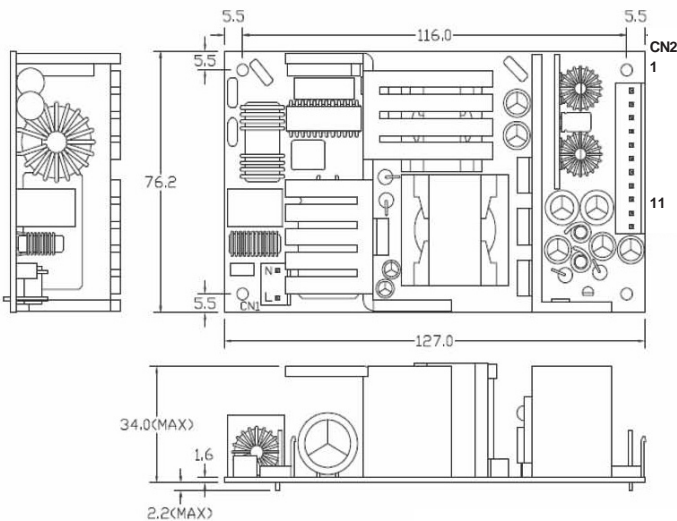
Input Voltage .....	90~264 VAC
Input Frequency .....	47~63 Hz
Input Current .....	2.5A (rms) @ 115 VAC, 1.25A (rms) @ 230 VAC max.
Inrush Current .....	40A max. @ 115 VAC or 80A max. @ 230 VAC at cold start 25°C
Power Factor .....	0.95 @ 115 VAC, 0.90 @ 230 VAC, typical
Maximum Output Power .....	150W @ 30 CFM forced air 120W @ convection on Open PCB 130W @ convection on U-bracket
Output Power Ratings .....	See table
Ripple and Noise .....	See table

**STANDARDS & COMPLIANCES**

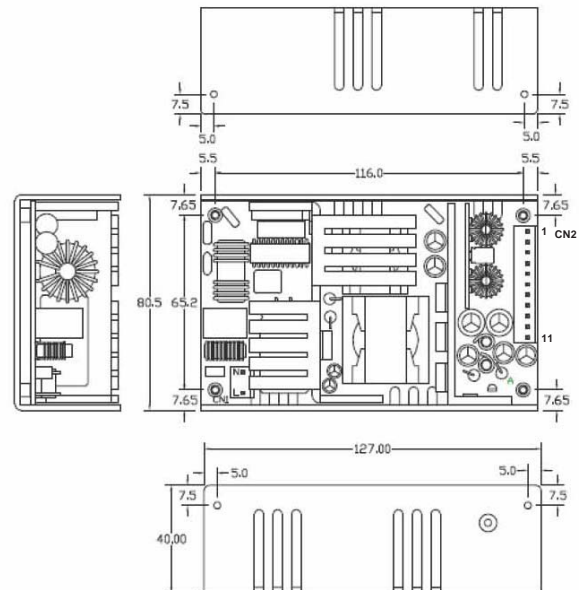
EMC Standards .....	EN55022, FCC, CISPR22, Class B
Safety Standards .....	UL60950-1 2nd Ed., EN60950-1 2nd Ed., CSA 22.2 No. 60950-1 2nd Ed., IEC60950-1 2nd Ed.
Agency Approvals .....	cUS, TUV, CB, CE
Other Compliance .....	RoHS

**MECHANICAL SPECIFICATIONS**

**Open PCB Type**



**U-Bracket Type**



**Notes**

1. Dimensions shown in mm.
2. CN1: AC Input JST B3P-VH-B or equivalent, mates with JST VHR-3N or equivalent
3. CN2: DC Output JST B11P-VH-B or equivalent, mates with JST VHR-11N or equivalent.
4. Weight: 0.39 kgs (Open PCB type), 0.5 kgs (U-Bracket type)

**GENERAL SPECIFICATIONS**

Efficiency .....	80% typical at full load, 115 VAC
Switching Frequency .....	60 KHz
Hold-up Time .....	16ms min. at full load, 115 VAC nominal line
Operating Temperature .....	0°C to +60°C
Derating .....	Derate from 100% at +40°C linearly to 50% at +60°C
Storage Temperature .....	-40°C to +85°C
Temperature Coefficient .....	±0.05%/°C
Operating Humidity .....	5% to 95% non-condensing
Short-Circuit Protection .....	Shut-down with auto-recovery
Over-Load Protection .....	Protected at 110% to 160% above following max. rating
Over-Temperature Protection ...	Automatic shutdown; the temperature sensing point is located at HS1; OTP threshold is 88±4°C
MTBF .....	100K hrs min. at full load and 25°C ambient temperature

# TW150 Series

## 150W Multiple Outputs AC/DC Power Supplies

### MODELS LIST

Product No.	Output Voltage	Min. Load	Open PCB Type						U-Bracket Type						Total Regulation	Ripple & Noise (Vp-p)*
			@ Convection			@ 30CFM Forced Air			@ Convection			@ 30CFM Forced Air				
			Max. Load	Combined Load Max.	Max. Power	Max. Load	Combined Load Max.	Max. Power	Max. Load	Combined Load Max.	Max. Power	Max. Load	Combined Load Max.	Max. Power		
<b>DUAL OUTPUTS</b>																
TW150-D1	+12V	0.15A	6A	-	120W	7.5A	-	150W	6A	-	120W	7.5A	-	150W	±5%	120mV
	+24V	0.15A	3.5A			4.5A			3.5A			4.5A			±5%	240mV
TW150-D2	+5V	0A	10A	-	120W	12A	-	150W	10A	-	120W	12A	-	150W	±5%	50mV
	+24V	0.15A	3.5A			4.5A			3.5A			4.5A			±5%	240mV
TW150-D3	+5V	0A	10A	-	120W	12A	-	150W	10A	-	120W	12A	-	150W	±5%	50mV
	+12V	0.15A	6A			7.5A			6A			7.5A			±5%	120mV
<b>TRIPLE OUTPUTS</b>																
TW150-T1	+5V	0A	10A	75W	120W	12A	90W	150W	10A	75W	120W	12A	90W	150W	±5%	50mV
	+12V	0.15A	6A			7.5A			6A			7.5A			±5%	120mV
	+24V	0.15A	3.5A			4.5A			3.5A			4.5A			±5%	240mV
TW150-T2	+3.3V	0A	10A	75W	120W	12A	90W	150W	10A	75W	120W	12A	90W	150W	±5%	50mV
	+5V	0A	10A			12A			10A			12A			±5%	50mV
	+12V	0.15A	6A			7.5A			6A			7.5A			±5%	120mV
TW150-T3	+3.3V	0A	10A	75W	120W	12A	90W	150W	10A	75W	120W	12A	90W	150W	±5%	50mV
	+5V	0A	10A			12A			10A			12A			±5%	50mV
	+24V	0.15A	3.5A			4.5A			3.5A			4.5A			±5%	240mV
<b>QUAD OUTPUTS</b>																
TW150-Q1	+3.3V	0A	10A	75W	120W	12A	90W	150W	10A	75W	120W	12A	90W	150W	±5%	50mV
	+5V	0A	10A			12A			10A			12A			±5%	50mV
	+12V	0.15A	6A			7.5A			6A			7.5A			±5%	120mV
	+24V	0.15A	3.5A			4.5A			3.5A			4.5A			±5%	240mV
TW150-Q2	+3.3V	0A	10A	105W	120W	12A	125W	150W	10A	105W	120W	12A	125W	150W	±5%	50mV
	+5V	0A	10A			12A			10A			12A			±5%	50mV
	+12V	0.15A	6A			7.5A			6A			7.5A			±5%	120mV
	-12V	0.15A	1.5A			2.5A			1.5A			2.5A			±8%	120mV
TW150-Q3	+3.3V	0A	10A	105W	120W	12A	125W	150W	10A	105W	120W	12A	125W	150W	±5%	50mV
	+5V	0A	10A			12A			10A			12A			±5%	50mV
	+15V	0.15A	2.5A			3.5A			2.5A			3.5A			±5%	150mV
	-15V	0.15A	1.25A			1.75A			1.25A			1.75A			±8%	150mV
TW150-Q4	+3.3V	0A	10A	105W	120W	12A	125W	150W	10A	105W	120W	12A	125W	150W	±5%	50mV
	+5V	0A	10A			12A			10A			12A			±5%	50mV
	+12V	0.15A	6A			7.5A			6A			7.5A			±5%	120mV
	+48V	0.15A	0.5A			1A			0.5A			1A			±8%	480mV
TW150-Q5	+5V	0A	10A	75W	120W	12A	90W	150W	10A	75W	120W	12A	90W	150W	±5%	50mV
	+12V	0.15A	6A			7.5A			6A			7.5A			±5%	120mV
	+24V	0.15A	3.5A			4.5A			3.5A			4.5A			±5%	240mV
	-12V	0.15A	1.5A			1.5A			1.5A			1.5A			±5%	120mV
TW150-Q6	+5V	0A	10A	75W	120W	12A	90W	150W	10A	75W	120W	12A	90W	150W	±5%	50mV
	+12V	0.15A	6A			7.5A			6A			7.5A			±5%	120mV
	+24V	0.15A	3.5A			4.5A			3.5A			4.5A			±5%	240mV
	-15V	0.15A	1A			1A			1A			1A			±8%	150mV
TW150-Q7	+3.3V	0A	10A	75W	120W	12A	90W	150W	10A	75W	120W	12A	90W	150W	±5%	50mV
	+5V	0A	10A			12A			10A			12A			±5%	50mV
	+12V	0.15A	6A			7.5A			6A			7.5A			±5%	120mV
	+28V	0.15A	3A			4A			3A			4A			±5%	280mV

\* Peak-to-peak with 20MHz bandwidth with a tantalum 10µF in parallel with 0.1µF ceramic capacitor.

Ordering Information: Add suffix "B" to the P/N to order unit with U-bracket, e.g. TW150-T1B.

### PIN CHART FOR OUTPUT CONNECTOR (CN2)

Pin No. Part No.	1	2	3	4	5	6	7	8	9	10	11
TW150-D1	-	-	-	-	-	-	GND	GND	+12V	+12V	+24V
TW150-D2	-	+24V	GND	GND	+5V	+5V	-	-	-	-	-
TW150-D3	-	-	-	-	+5V	+5V	GND	GND	+12V	+12V	-
TW150-T1	-	-	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+24V
TW150-T2	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	-
TW150-T3	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	-	-	+24V
TW150-Q1	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+24V
TW150-Q2	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	-12V
TW150-Q3	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+15V	+15V	-15V
TW150-Q4	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+48V
TW150-Q5	-12V	-12V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+24V
TW150-Q6	-15V	-15V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+24V
TW150-Q7	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	+12V	+28V