

Component Name	Value / Rating	Quantity	Description
Transformer	220V Pri / 24V Sec, 100VA	1	Main AC power source.
Bridge Rectifier	KBPC3510 (35A)	1	Full-wave rectifier module.
Filter Capacitor	4700μF / 50V (Electrolytic)	1	Main DC smoothing capacitor.
Bypass Capacitor	100nF (Ceramic/Film)	1	High-frequency noise filtering at input.
Output Capacitor	10μF / 25V-50V (Electrolytic)	2	Stability capacitor for regulators.
Voltage Regulator	LM338T	1	Adjustable regulator (1.2V - 30V).
Voltage Regulator	L7812	1	Fixed 12V regulator for fan.
Potentiometer	5kΩ (Linear)	1	Voltage adjustment control (RV1).
Resistor	220Ω (1/4W)	1	Reference resistor for LM338T.
Protection Diode	1N4007	2	Reverse current protection.
Cooling Fan	12V DC Fan	1	Active cooling connected to 7812 output.
Digital Panel Meter	DC 100V / 10A	1	Output voltage and current monitoring.
Heatsink	Aluminum	2	For LM338T and KBPC3510.
Fuse & Holder	Glass Fuse	1	AC input safety.
Switch	Rocker Switch	1	AC Power control.