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120W DC/DC Converter Dual Output Data Sheet

Green Watt Power's 120W DC/DC power modules are designed with compact size, low cost, high efficiency, and high reliability. Featured with a fully sealed mechanical structure and 12V and 13.2V with up to 10A output, this series offers solid and safe power conversions on electrical bikes, electrical motorcycles, and other DC/DC applications.

Features:

- Wide Input Voltage: 30~60VDC
- Dual Output Voltage: 13.2VDC
- High Reliability
- High Efficiency up to 94.5%
- Over Current, Short Circuit and Over Temperature Protection
- Natural Cooling
- Operating Temperature: -30~50°C
- IP67 Ingress Protection (excluding connector)

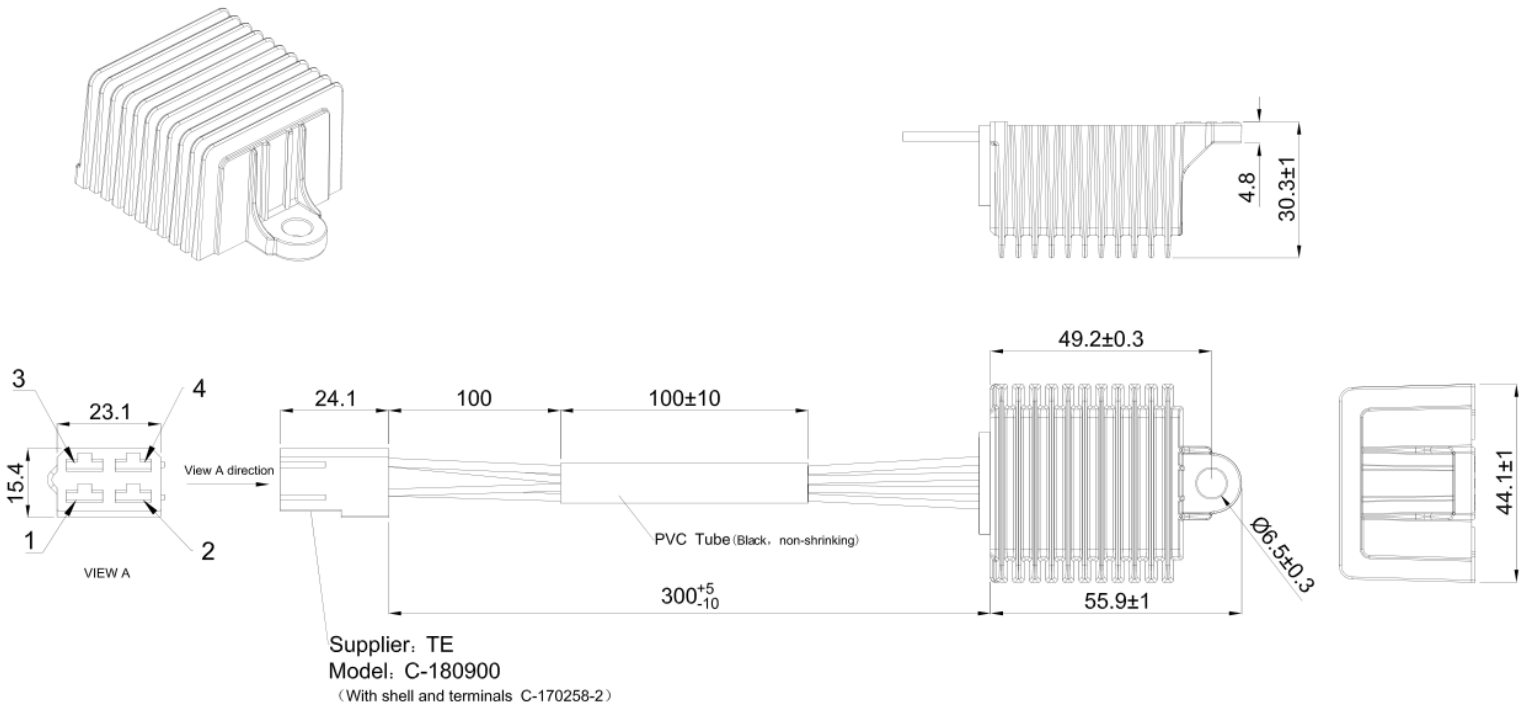
ROHS COMPLIANT

Image does not show cable/connector

***General Specifications for Model** (factory number) **EVD-48-120-13** (PLD120-DX02-01210NEM)*	
Input Voltage	30VDC ~ 60VDC (±2)
Max. Input Current	5.0 A @ Vin min
Efficiency @ 30Vin, 13.2Vout/8A @ 60Vin, 13.2Vout/8A	93.0% min / 94.5% typ. 92.0% min. / 93.5% typ.
Input/Output Isolation	Non-isolated
Output Voltage, nominal	13.2VDC
Output Voltage Accuracy	±0.5V
Output Current (@ Vout nom)	0.1A min. / 8A typical / 10A max.
Output Power	96W (Continuous), 120W (Peak for 1min)
Output voltage ripple and noise	<300mVp-p (20MHz BW, 0.1/10uF)
Rise Time @ Full Load	50ms max. 30-60Vin
Dynamic Load Response 10% to 100% load step	8.8 ~ 13.2 Vo max. (slope: 1A/us, frequency: 50Hz, duration: 10ms)
Enable (On/Off Control)	Output enabled if connected to Vin (≥30V) and Off with no signal
Over Current and Short Circuit Protection (SCP)	Converter enters latch mode at 1.4 ~ 2.0 times rated current / shorted output. Recycle input voltage to restart output after fault condition is removed.
Ingress Protection	IP67 (excluding connector)
Operating Ambient Temperature Case Temperature Storage Temperature	-30 °C ~ +50°C (natural convection) -30 °C ~ 60 °C -30 °C ~ 80°C
Dimensions (L x W x H)	69 x 44 x 30 mm
Weight	92 g
Hi-pot	Input & Output to Case: 500VAC / 5mA max / 60 seconds (3s for production)
MTBF	MTBF is >100,000 hours at 25 °C, Rated input, and full load at output.
Lifetime	The Lifetime is >20,000 hours at 25 °C, Rated input, and full load at output.
Burn-in test	2 Hours min. burn-in at 40°C ± 2 °C under full load condition.

Note: Specifications at room temp unless otherwise specified and they are subject to change without notice.

Mechanical Data:



Connector Info:

Input and 12V Output Connector (TE C-180900 / C-170258-2)

Pin	Function	Description	Wire Color	Wire Gauge
1	GND* (ground)	Input & Output Return	Black	UL1007 AWG#16
2	Vo+ (13.2V)	Positive Output Voltage	Red	UL1007 AWG#16
3	Vin+ (30-60V)	Positive Input voltage	Brown	UL1007 AWG#18
4	ENABLE**	Enable Function	Green	UL1007 AWG#18

Note:
*GND = ground is common return for Input and Output (converter is not isolated).
**ENABLE: Connect to Vin+ to operate converter, leave open for OFF.