

Preliminary



LCC250

250 Watts

Convection/Conduction
Mounting

Total Power: 250 W
of Outputs: Single
Output: 12 V

Special Features

- 12 VDC / 250 W output power
- Wide Operating Temperature Range suited for outdoor application
- IP64 Rated
- Conducted Mounting or Convection
- Differential Remote Sense
- Output Adjust
- Output On/Off (Positive or Negative user selectable)

Compliance

- EMI Class B
- EN61000 Immunity

Safety

- UL+CSA 60950-1
60601-1
- TUV 60950-1 (Pending)
60601-1 (Pending)
- CB Scheme 60950-1

Electrical Specifications

Input	
Input Range:	90 - 264 Vac (Operating) 115/230 Vac (Nominal)
Frequency:	47 - 63 Hz
Input Fusing:	Internal fuse on both L and N lines
Inrush Current:	50 A
Power Factor:	> 0.92 Full load
Harmonics:	Meets IEN 61000-3-2 Class C
Input Current:	3.4 A @ 90 Vac full load
Hold Up Time:	16 ms minimum at 115 Vac; 100% load
Efficiency:	89% Typical at 230 Vac; 100% load
Leakage Current:	< 275 μ A at 230 Vac

Output		
Output Rating:	12 V @ 20.83 A	
Set Point:	± 0.5%	Factory set point
Total Regulation Range:	± 2%	Line/Load/Temperature
Rated Load:	250 W maximum	
Minimum Load:	0 A Load	No loss of regulation
Capacitive Load:	0 - 330 μF/Amp	Equivalent to roughly 0 to 2X 3300 μF (25 V) cap.
Constant Output Voltage Adjustment Range:	+10 / -10%	Adjust via VR1
Constant Output Current Adjustment Range:	+0 / -50%	Adjust via VR2; CC mode supported from Vo nominal down to -10V
Output Ripple and Noise:	1%	See Note 1
Transient Response:	± 5% Vo max transient; recovery < 500 μs max	50% Load Step @ 1 A/μs Step Load verified at: 50% to 100% Load; 90 - 264 Vac input; Capacitive Load from 0 to 2X 3300 μF (25 V)
Remote sense:	Capable of Stable Offset of ± 0.5 Vdc at output cable termination	+SENSE (Red Wire); -SENSE (Black Wire)
Output On/Off:	Remote On/Off referenced to secondary side. Positive or Negative logic user selectable via CN2.	On/Off (Orange Wire); On/Off Return (White Wire)
Overcurrent Protection (OCP):	< 150% Io	Autorecovery
Overvoltage Protection (OVP):	110% to 135% Vo	Latching mode; Requires input AC recycle
Overtemperature Protection (OTP):		Autorecovery; hiccup mode
Output Isolation	4000 Vac Input to Output 1500 Vac Input to Ground 500 Vac Output to Ground	

Environmental Specifications

Operating Temperature Range:	Suffix 4P (Conduction): -40 °C to +85 °C Baseplate Temperature Suffix 7P (Convection): -40 °C to +85 °C Ambient Temperature
Storage Temperature:	-40 °C to 85 °C
Humidity:	10% to 100%
Altitude:	Operating: 13,000 feet Non-Operating: 50,000 feet
Shock:	IEC68-2-27
Vibration:	IEC 68-2-6 / IEC 721-3-2
Ingress Protection:	IP64 Rated

Ordering Information

Model Number	Output	Adjustment Range	Output Current		Output Ripple P/P ¹	Line/Load Regulation	Safety Approval ²	Status
			Min	Max				
LCC250-12U-4P	12 V	+10% / -10%	0 A	20.8 A	1%	2%	A & B	January 2011 Release
LCC250-12U-4PE	12 V	+10% / -10%	0 A	20.8 A	1%	2%	C & D	TBA
LCC250-12U-7P	12 V	+10% / -10%	0 A	20.8 A	1%	2%	A & B	January 2011 Release
LCC250-12U-7PE	12 V	+10% / -10%	0 A	20.8 A	1%	2%	C & D	TBA

1. Output ripple measured at the end of the output cable terminated with 10 μ F tantalum cap in parallel with 0.1 μ F ceramic cap. 1% limit is achieved with 2X 820 μ F/16 V external cap (e.g. PLG1C821MDO1 from Nichicon or equivalent). Otherwise, maximum limits are 1.5% at $T_a \geq 0^\circ\text{C}$ and 2.0% max at $T_a < 0^\circ\text{C}$.

2. Safety Approvals:

- (A) UL+CSA 60950-1 2nd Edition
- (B) UL+CSA 60601-1 2nd Edition
- (C) TUV 60950-1 2nd Edition (different input cable)
- (D) TUV 60601-1 2nd Edition (different input cable)

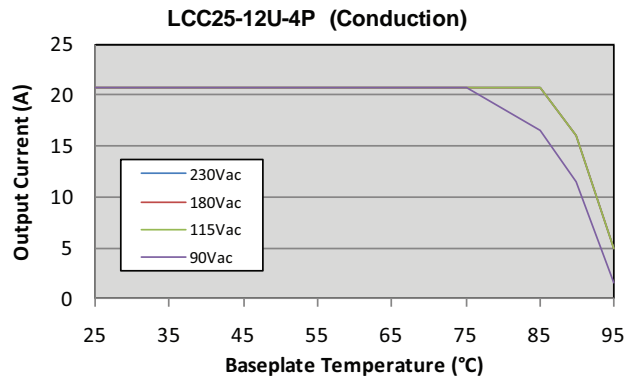


Fig 1. "4P" Suffix (Conduction) Output Current Derating

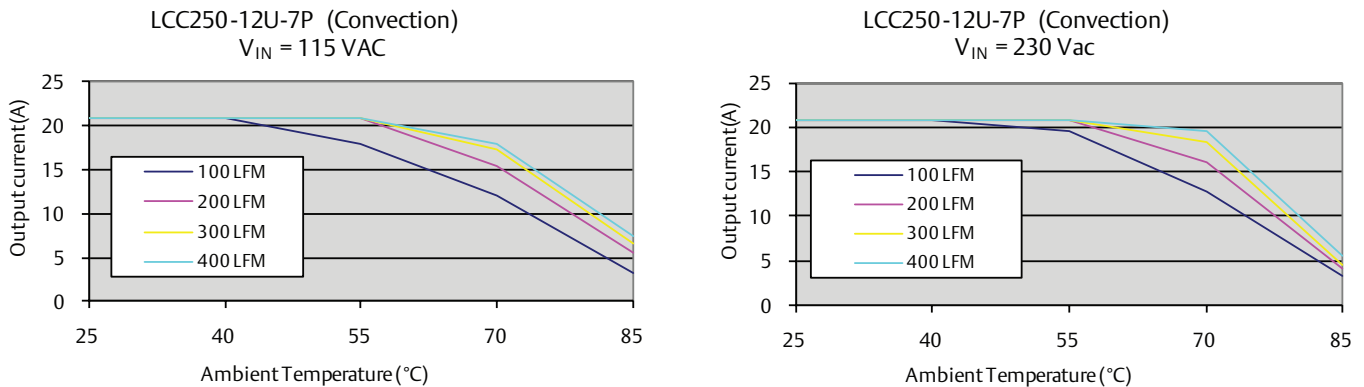
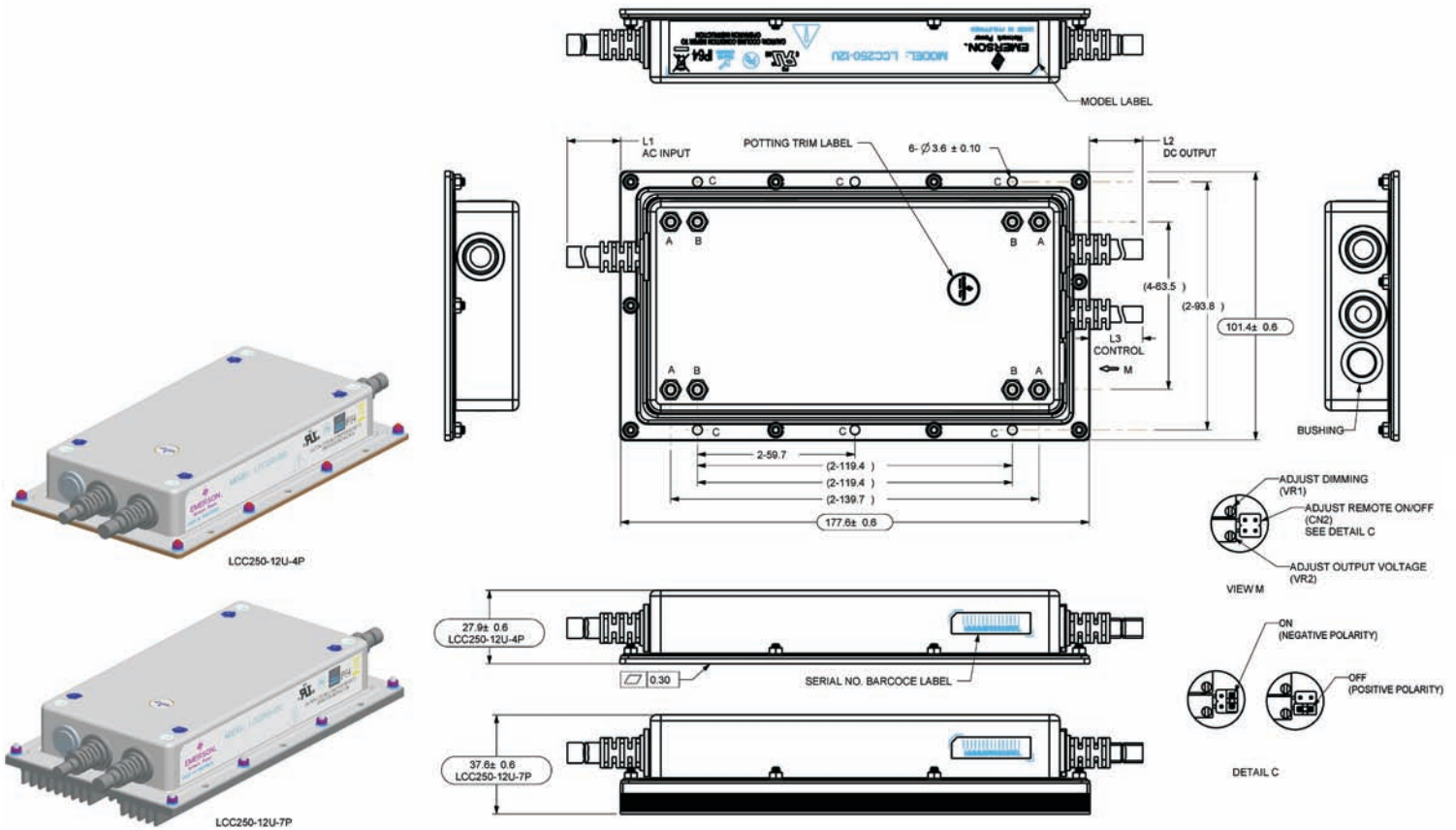


Fig 2. "7P" Suffix (Convection) Output Current Derating

Mechanical Drawing



Cable	Length	Designation	Wire Color	Wire Gauge
AC Input Cable	L1 = 150 ± 10 mm	L = Live	Brown	AWG#18
		N = Neutral	Blue	AWG#18
		PE = Primary Earth	Green/Yellow	AWG#18
DC Output Cable	L2 = 150 ± 10 mm	+Output	Blue	AWG#14
		-Output	Gray	AWG#14
Control Cable	L3 = 150 ± 10 mm	Dimming	Brown	AWG#26
		Dimming Return	Yellow	AWG#26
		ON/OFF	Orange	AWG#26
		ON/OFF Return	White	AWG#26
		Sense	Red	AWG#26
		Sense Return	Black	AWG#26

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