

# **LCM300**

310 Watt Bulk Front End

#### **Data Sheet**

**Total Power:** 310 W # of Outputs: Single Outputs: 12 to 60 V Optional 5.0 V standby

## **SPECIAL FEATURES**

- 310 W output power (350 W at 45 °C for 24 V and 36 V models)
- Low cost
- 1.61" x 4.0" x 7.0"
- 7.1 Watts per cubic inch
- Industrial/Medical safety
- -40 °C to 70 °C with derating
- Optional 5 V @ 2 A housekeeping
- High efficiency: 91% @ 230 Vac
- Variable speed "Smart Fans"
- DSP controlled
- PMBus compliant
- Conformal coat option
- Wide adjustment range
- Margin programming
- OR-ing FET

## **COMPLIANCE**

- EMI Class B
- EN61000 Immunity
- RoHS 2
- PMBUS

#### **SAFETY**

• UL 60950-1 508/1598/1433 60601-1 Ed 3

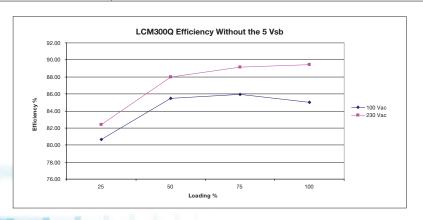
CSA 60950-1VDE 60950-1 60601

China CCC

CB Scheme Report/Cert



Electrical Specifications					
Input					
Input range	90 - 264 Vac (Operating) 115/230 Vac (Nominal) TERMINAL BLOCK				
Frequency	47 - 63 Hz, Nominal 50/60				
Input fusing	Internal 8 A fuses, both lines fused				
Inrush current	< 20 A peak, cold start at 25 °C				
Power factor	0.98 typical, meets EN61000-3-2				
Harmonics	Meets IEC 1000-3-2 requirements				
Input current	5 Arms max input current, at 90 Vac				
Hold up time	20 ms minimum for main O/P, at full rated load				
Efficiency	> 91% typical at full load / 230 Vac nominal				
Leakage current	< 300 μA @ 240 Vac				
ON/OFF power switch	N/A				
Power line transient	MOV directly after the fuse				
Isolation	Isolation: PRI-Chassis 2500 Vdc Basic PRI-SEC 4000 Vac Reinforced 2xMOPP SEC-Chassis 500 Vdc				





Electrical Specificatio	ns			
Output				
Output rating	See table 1	90 - 264 Vac		
Set point	±0.5%	90 - 264 Vac		
Total regulation range	Main output ±2% 5 Vsb ±1%	Combined line/load/transient when measured at output terminal		
Rated load	310 W (360 W for current Q and U variants)	Derate linear to 50% from 50 °C to 70 °C		
Minimum load	Main output @ 0.0 A 5 Vsb @ 0.0 A	No loss of regulation		
Output noise (PARD)	1% max p-p 100 mV max p-p	Main output 5 Vsb output Measured with a 0.1 μF Ceramic and 10 μF Tantalum Capacitor on any output, 20 MHz		
Output voltage overshoot		No overshoot/undershoot outside the regulation band during on or off cycle		
Transient response	< 300 μSec	50% load step @ 1 A/µs Step load valid between 10% to 100% of output rating Recovery time to within 1% of set point at onset of transient		
Max units in parallel		Up to 10		
Short circuit protection	Protected, no damage to occur	Bounce mode		
Remote sense		Compensation up to 500 mV		
Output isolation		Standard per safety requirements		
Forced load sharing	To within 10% of all shared outputs	Analog sharing control		
Overload protection (OCP)	105% to 125% 120% to 170%	Main output 5 Vsb output		
Overvoltage protection (OVP)	125% to 145% 110% to 125%	12 V output 5 Vsb output		

Environmental Specifications					
Operating temperature	-40 °C to +70 °C, linear derating to 50% from 50 °C to 70 °C				
Storage temperature	-40 °C to +85 °C				
Humidity	10 to 90%, non-condensing. Operating. Conformal coat option available.				
Fan noise	< 45 dBA, 80% load at 40 °C; Fan Off when unit is inhibited				
Altitude	Operating - 16,405 feet (5000m) Storage - 30,000 feet				
Shock	MIL-STD-810F 516.5, Procedure I, VI. Storage				
Vibration	MIL-STD-810F 514.5, Cat. 4, 10. Storage				

Ordering Information											
Model		Nominal Output	Set Point		Current		Output Ripple	Max Continuous	Combined Line/		
Number*	Output	Voltage Set Point	Tolerance	Adjustment Range	Min	Max	P/P (0-50 °C)	Power	Load Regulation		
LCM300L	12 V	12 V	±0.5%	9.6 - 14.4 V	0 A	25.0 A	120 mV	310 W	2%		
LCM300N	15 V	15 V	±0.5%	14.25 - 19.5 V	0 A	20.0 A	150 mV	310 W	2%		
LCM300Q	24 V	24 V	±0.5%	19.2 - 28.8 V	0 A	12.5 A*	240 mV	310 W	2%		
LCM300U	36 V	36 V	±0.5%	28.8 - 43.2 V	0 A	8.4 A*	360 mV	310 W	2%		
LCM300W	50 V	48 V	±0.5%	43.0 - 60.0 V	0 A	6.3 A	480 mV	310 W	2%		

 $<sup>^{\</sup>star}$  14.5 A rating on LCM300Q-T and 9.7 A on LCM300U-T when max temp does not exceed 45C (Total Power = 350 W)