POWER

LCM600

600 Watt Bulk Front End

Data Sheet

Total Power: 600 W
# of Outputs: Single
Outputs: 12 to 60 V
Optional 5.0 V standby

SPECIAL FEATURES

- 600 W output power
- Low cost
- 2.4" x 4.5" x 7.5"
- 7.41 W/cu-in
- Industrial/Medical safety
- -40 °C to 70 °C with derating
- Optional 5 V @ 2 A housekeeping
- High efficiency: 89% typical
- Variable speed "Smart Fans"
- DSP controlled front end
- Conformal coat option
- ± 20% adjustment range
- Margin programming
- OR-ing FET
- Terminal block input option

COMPLIANCE

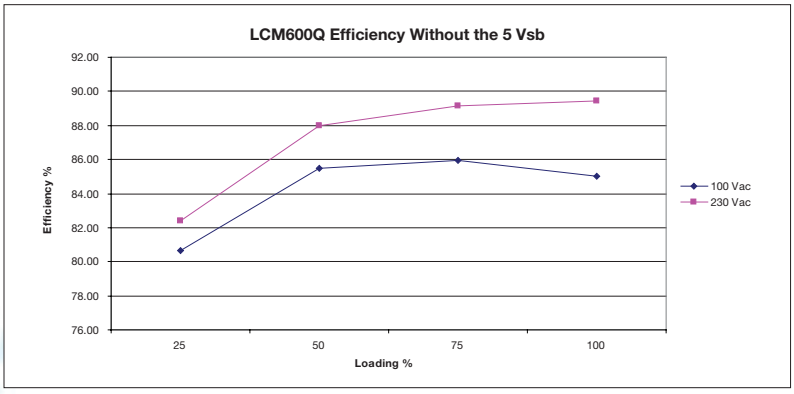
- EMI Class B
- EN61000 Immunity

SAFETY

- UL/CSA — UL60950-1/CSA C22.2 No. 60950-1, ES60601-1/CSA C22.2 No. 60601-1
- TUV — EN60950-1, EN60601-1
- CB Report — IEC60950-1, IEC60601-1
- CCC — GB4943, GB9254 and GB17625

Electrical Specifications

Input	
Input range	85 - 264 Vac (Operating) 115/230 Vac (Nominal) Input through standard IEC connector/ TERMINAL BLOCK
Frequency	47 - 440 Hz, Nominal 50/60
Input fusing	Internal 10 A fuses, both lines fused
Inrush current	≤ 25 A peak, either hot or cold start
Power factor	0.99 typical, meets EN61000-3-2
Harmonics	Meets IEC 1000-3-2 requirements
Input current	8 A RMS max input current, at 100 Vac
Hold up time	20 ms minimum for main O/P, at full rated load
Efficiency	> 89% at full load
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



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Electrical Specifications

Output		
Output rating	See ordering information table	85 - 264 Vac
Set point	± 0.5%	85 - 264 Vac
Total regulation range	Main output ± 2% 5 Vsb ± 1%	Combined line/load/transient when measured at output terminal
Rated load	600 W maximum	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 50 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
Overtemp protection	10 - 15 °C above safe operating area	Both PFC and output converter monitored
Fan Fault Protection		For-N option only. Will shutdown output and DC_OK

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 30 °C "-N" Low Noise Option < 35 dBA, 80% Load at 30 °C
Altitude	Operating - 16,404.2 feet 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 Number*	Output	Nominal Output Voltage Set Point	Set Point Tolerance	Adjustment Range	Current		Output Ripple P/P (0-50 °C)	Max Continuous Power	Combined Line/ Load Regulation
					Min	Max			
LCM600L	12 V	12 V	±0.5%	9.6 - 14.4 V	0 A	52 A	120 mV	600 W	2%
LCM600N	15 V	15 V	±0.5%	12.0 - 19.5 V	0 A	44 A	150 mV	600 W	2%
LCM600Q	24 V	24 V	±0.5%	19.2 - 28.8 V	0 A	27 A	240 mV	600 W	2%
LCM600U	36 V	36 V	±0.5%	28.8 - 43.2 V	0 A	16.7 A	240 mV	600 W	2%
LCM600W	48 V	48 V	±0.5%	38.4 - 57.6 V	0 A	14 A	280 mV	600 W	2%

*Note: Add "-T" for terminal block instead of IEC input

Add "-N" for low noise model on 12 V or 24 V models

Add "-4" for 5 V Standby output

Add "-A" will be automatically added to all orders to denote new Aesthetics style chassis unless otherwise specified

Add "-8" for models with special Constant Current Mode operation

Example: a 24 V with terminal block, low noise and standby with new Aesthetics would be LCM600Q-T-N-4-A